The Journal of Higher Education JUNE, 1951

Study and Research in the Natural Sciences

By M. H. TRYTTEN

As a Force in Conserving National Security

TO DISCUSS appropriately the training of scientists for long-range national security will obviously require the definition of both the concept of *long-range* and the concept of *national security*, and in the former case there is much more involved than merely the length of time one has in mind in using the term. There is involved in this concept, also, the question of the probable circumstances that may arise which will influence to a large extent the kind and the nature of the training which needs to be provided. Similarly, the word *security* may carry with it many connotations. One may think of it simply in terms of the need to withstand aggressive action on the part of an unfriendly nation, or as a much broader concept of protection against the many adverse forces within and without our nation and throughout the world.

There has been a very marked reduction in the atmosphere of hysteria so characteristic of the last few months in the United States. The military situation in Korea seems less disturbing. Recent announcements with regard to the build-up of the military establishment seem to promise less drastic withdrawals from the civilian manpower of the nation. There is, therefore, a national temper more conducive to sober thought over these long-range problems. Sober thinking, however, is not at home in an atmosphere of undue optimism any more than it is in an atmosphere of gloom and hysteria. It is fortunate, then, that we can view these problems now when affairs have assumed much more nearly their proper proportions.

It is not the purpose of this paper to enter into a searching analysis, or to make predictions on the shape

of things to come. There are few of us today who can look into the future with any great confidence in our ability to forecast events. Yet without some background of thought as to what may lie in the future it is obviously impossible to deal with a subject such as the training of scientists for national security, which clearly involves a program that must be related to the probability of future events.

Without going so far as to prophesy the shape of things to come, it does appear possible to call attention to certain basic facts regarding the world about us which have meaning for the future. The first of these is, of course, the fact of the growth of Communism throughout the world. This movement is approximately one hundred years old. During that time it has spread and has been accepted as the ruling philosophy in territories constituting a rather large part of the earth's land surface. It has left its disturbing influence in many of the countries which still cling to their Western orientation. During this time it has not been without change in its manifestations and in the type of government developed in the countries where it is dominant. It is, perhaps, fair to state, however, that today Communism is an instrument of imperialist expansion. It is also true that the basic tenet of this movement is that the individual exists for the benefit of the state. All his personal activities, his allegiances, and his very thoughts, must be for the advantage of the state. This is completely contrary to the philosophy of the Western world, where the basic characteristic is that the state exists for the individual and is controlled by the will of the individual expressed through elections. These concepts are so completely opposite that it seems highly unlikely that they can exist together in the same world without conflict. There is apparently nothing to indicate at the present time that this basic antipathy is receding. While this does not necessarily mean full-scale military combat between the Eastern and Western worlds, it would certainly appear that the resolution of this basic antipathy is not a matter of a few days or a few months, but one which will undoubtedly result in the necessity for a posture of defense on our part far beyond our customary level, for a number of years to come.

IT WOULD be unwise, however, to assume that this is the only great movement afoot in the world today which will affect us in the future and require our serious attention. There is abroad in the present world a spirit of unrest and revolution so widespread that few comparable periods of change in the world's history have occurred. Perhaps one would need to go back to the Saracen invasion of Europe or to the period of the beginning of the Renaissance to find a parallel with regard to its implications for the future. There are vast areas of the world in which people are ready for change. They are tired of poverty and starvation. Constantly made aware by motion pictures, by media of mass communication, and by the representatives of Western civilization among them that there are in the world areas of prosperity and of a high standard of living, they have gradually lost faith in their own traditional ways

and are ready for any desperate attempt to catch up with modern civilization. This is evident in the movements in China, in India, among the Moslem and Arab peoples in the Middle East, in South Africa, and in many other places. These movements can be powerful and, if exploited, can be devastating in their effects.

It is unthinkable, in a world as unsettled as the present one, that the United States will not be involved in the great efforts which will be necessary to help develop in the various corners of the earth more stable economies, more stable governments, and more satisfactory ways of living. Part of these efforts must be military, and undoubtedly we shall be involved in that aspect. For stability cannot be assured without the exercise of power. There is just as much danger in a situation where power is absent as there is in a situation where power is too great and uncontrolled. But much more will be needed in the way of assistance than mere military action. The Point Four Program is obviously designed as a first approach to this problem. Technological assistance alone, however, will not be enough. Unquestionably, the time will come when we will need to help in the development of more satisfactory economic, political, and social organizations.

Long-range national security, therefore, is much more than a matter of the creation and maintenance of a powerful military structure. And the training of scientists must be viewed in this larger context. Since this is true, a catalogue of the many things that are involved in the training of scientists for long-range national security would be far beyond the compass of a brief presentation such as this must be.

IT MUST be obvious, first of all, that very few, if any, of the present scientific activities of the nation are unimportant in a long-range perspective. Most of them have such a direct bearing on security that the likelihood is for an increase rather than a decrease of immediate relevance. This is quite evident in the sharply increased Federal budgets in the fields of science most closely associated with military applications and in the applied sciences arising from them. But even in the sciences less related to military weapons there is a direct relationship in the vast majority of cases with the increased needs of a community whose activities are quickened by a mobilization program. Potentially, at least, every science is related to the problems of health, agriculture, natural resources, water and its manifestations, conservation, communication, and a long list of other activities, all of which will feel the impact of an increased tempo of events. In the long run, the rôle of all of the sciences must increase if viewed in terms of the troubled world and its problems. It would, I am sure, be unnecessary and even gratuitous to point out the many relationships which are bound to arise between the sciences and the long-range rôle this nation must play in the future. Suffice it here to say that it is inconceivable that this rôle will be a minor one. It seems certain to involve every science to a greater or lesser degree.

There are, however, certain general

considerations which need to be emphasized as being of particular importance in this total long-range picture. The first of these must always be an adequate emphasis on an effective program of basic research. Much has been said about the need of such a program since the Second World War. It has frequently been pointed out by leaders in science and by leaders in the field of education and public affairs who are acquainted with the nature of science that this is a matter of paramount concern. It has been pointed out that prior to the Second World War, America imported far more fundamental scientific knowledge than it exported. It has also been pointed out that the great centers of learning throughout the world where this basic research originated have been seriously crippled by the war, and therefore the responsibility for keeping the flow of basic research at the necessary level rests now largely on the scientists within our borders. It has also been pointed out that little if any basic research was done in this country during the war. While this may be an exaggeration, it is certainly true that the leading scientists of the nation were employed in an intensive effort to apply information existing at that time to the military problems of the day. For military purposes alone, this has meant that the stockpile of basic research information has been seriously depleted. There is a much shorter gap today between the results of fundamental research and their applications.

These things are well known, but what is less well known is that, in spite of widespread discussion of this problem, every trend seems to be inevitably in the direction of further tipping of the balance toward applied research rather than basic research. The existence of large sums of money available for applied research from the Federal treasury and from the budgets of industry tends inevitably to turn the stream of talent in that direction. The salaries available in the universities, where basic research is most at home, are conspicuously below those in government and industry. Facilities are likewise usually much better, and therefore more attractive to scientists, in the laboratories dealing with applied research. For long-range national security, therefore, one of the most important needs in the whole of science is a conscious movement, well supported by adequate funds, to increase the emphasis on fundamental research and to make available the talent of our ablest scientists on this, the very heartland of the continent of science.

THE second important consideration is the training of adequate numbers of scientists in the future. We cannot have a dynamic and vigorous science in the future, adequate to meet all of our responsibilities, without having a substantial flow of personnel emerging annually from the training institutions. Much has been said of the shortage of scientists at the present time. There is evidence on every hand that this shortage is a reality; and it is having the effect of sharply limiting the initiation of projects, not only in basic science but even in the field of military applications of science.

It seems evident that this shortage

is more likely to increase than to decrease. Enrollment figures in engineering, much publicized lately, show that graduating classes in engineering for the next four years will progressively and sharply reduce in numbers. In the sciences, a similar situation is quite likely to occur, particularly at the graduate level. Forty-four per cent of the graduate enrollment in the sciences, a year or two ago, was supported by the Federal Government through veterans' benefits. These benefits are rapidly running out and will undoubtedly have a significant effect on the number of graduate students in our universities. Similarly, the prospect of reduced enrollments will undoubtedly result in fewer teaching assistantships as a means of supporting graduate students. Since traditionally in American education few graduate students support their studies from personal funds, the net result seems clearly to indicate a reduction in graduate enrollments in the face of increasing needs for graduate scientists.

These things point to the need for a conscious and consistent national policy with regard to scientific personnel. There has been increasing awareness in the minds of most people that there is no more important resource in the United States than the highly trained specialist in the various areas so necessary to our civilization (not only in the field of science), and yet the production of scientific personnel and its utilization have been left largely to chance. For example, up until shortly before the Second World War, the vast majority of physicists in the nation received their training while being supported by teaching assistantships. The number of teaching assistantships, again, was determined by the number of sophomore students in pre-medics and in engineering. Physicists were, therefore, to a large extent a by-product of the training of engineers and students of the healing arts. They did not exist as the result of any conscious attempt to produce physicists as a national necessity. While this may have worked out fortuitously in the past as a result of the operation of a beneficent fate, the time is long since past when such matters can be left to chance.

THE development of science in the United States has been largely conditioned by the interests arising in American university departments, most frequently as a result of immediate environment. To a large extent this development has been centered on interests within the borders of our own country. Occasionally these interests have crossed our borders and have related themselves to foreign lands and foreign problems, but for the most part we have been unconsciously isolationist in our scientific activities. This is, of course, understandable, and a most natural phenomenon. But if it is true that America is to come face to face with the problem of assisting the rest of the world, it is equally obvious that there will need to be increasing concern with the scientific problems of the rest of the world. By far the greater portion of the world's population with which we can be expected to become involved in the future lies between the Tropics of Cancer and Capricorn. Our own nation, upon which our science has been focused, has developed in a

more temperate climate, and has been least active in that part of the nation which is closest to the equatorial regions. It seems to me important that in the future this whole tendency be reversed. There is unquestionably a vast wilderness of problems in agriculture, geology, public health, medicine, marine biology, entomology, the control of pests and disease for both plants and animals, and many other fields, each of which constitutes a vast area of scientific development. The results of research in these areas can be of the utmost importance in solving the many problems which give rise to the spirit of unrest which threatens the stability of the world today. This constitutes a great challenge to American science, not only to develop outstanding authorities in the United States in the many branches of science which relate to the problems of submerged populations, and in their applications to other areas of the world, but also to train scientists from these areas who can return home and become the nuclei of indigenous scientific activity. If our own long-range national security rests upon the stability of the world, this is indeed one way of contributing to our security over the long pull.

If I may summarize, then, I should say that science over the coming years must look to the proper balance of its activities between the immediate and the long-range program, so that the solid growth of the roots and trunk of the tree of science be not sacrificed to accelerate the growth of its fruit. Our scientific leadership in the future will depend on our development of a solid core of basic science. That and an adequate program for the selection and training of the necessary number of competent scientists is the prime requisite. In an emergency one can always redirect the scientist from basic research to applied research, almost overnight. One cannot reverse this process with equal ease. And one can never, in an emergency, create overnight the basic research information on which applied research depends.

Religion in a State University

By HARRY H. KIMBER

The Courses Offered at Michigan State College

STRONG administrative endorsement is given to religious activities at Michigan State College, although it is a state-supported institution, and dynamic programs of religious counseling and teaching are maintained. The roots of the relationship between this college and religion lie deep in its history, but reorganization and growth in this area during the past few years have produced results that are worthy of note by any who are interested in the place of religion in public higher education.

Three basic principles have here been established as acceptable foundations for the development of religious activities in a state-supported university. The first principle is that the religious life of the student body is a matter of necessary and proper concern for the college faculty and administration. That religion as an integral part of a culture and a proper field of knowledge must receive recognition in the curriculum of studies is the second principle. The third principle is that a clear-cut distinction must be maintained between religious activities as such and religion as a subject to be taught in the curriculum.

That the religious life of the student body is a necessary and proper concern for a college or university, whether supported by private or public funds, is a principle implicit in the very nature of the educational process. The educational ideal of the contemporary college or university is to be found, not in the training of the intellect alone, but in the development of students morally and spiritually, as well as intellectually, equipped to become happy and useful citizens. As soon as the effort to achieve this ideal rises above the level of superficial cultivation of the social graces or urbane appreciation of the arts, religion must of necessity in some manner be included in the curriculum. Only at the expense of the peace and order of the life of the individual student and at the peril of civilized, democratic society itself, can utility, happiness, or citizenship be interpreted in materialistic or hedonistic terms. Michigan State College is convinced of the necessity and of the propriety of college support of religious interests and activities amongst the student body. An institution that can and does directly support an extensive program of intramural and intercollegiate athletics on the theory that the physical development thereby promoted is part of a well-rounded personality, one which can and does directly support ambitious programs of concerts, exhibitions, and lectures in the

fields of music, art, politics, and letters, surely should similarly lend its resources, moral and material, to the recognition and encouragement of religious life amongst its students and faculty.

There are nine recognized student religious-interest groups on the campus and, in addition, the Y.M.C.A. and Y.W.C.A. Housing is provided for the Y.M.C.A. in the Union Building, while most of the student church groups have their own houses, in some cases with chapels attached. The two "Y" groups have professional secretaries, and the Peoples Church and the Episcopal Church maintain full-time chaplains for student work, while chaplaincy duties are performed by the clergy attached to the local Roman Catholic parish. The pastor of the College Lutheran Church and the rabbi of the Lansing Synagogue give much of their time to student work.

The office of the dean of students, through the counselor for men and the counselor for women and their assistants, together with the Counseling Service, works in close and harmonious relationship with the various chaplains. "We consider their activities," says Dean Crowe, "an important part of the complete personnel service." The student chaplains and the faculty sponsors of the student religious organizations meet with representatives of the Dean of Students and of the Counseling Service at regular and frequent intervals. Common problems and policies affecting the religious life of the campus are here discussed freely and frankly. Through this consultative procedure the religious organizations share in the making of institutional policy in this field. Similarly, the closest liaison is maintained in dealing with individual student problems which appear to have a religious facet.

What President Hannah has called the "hearty approval" of religious activities on the campus, and the co-operation that exists between the college and the religious groups, exemplify the principle of college concern for the religious life of the student body. But this is only half of the story. Primarily, a college or university is a place of learning. If in this task of imparting knowledge religion is left out of the curriculum, and if in the research activities of the institution no place is found for the things of God, a void is created. By ignoring religion the colleges make a profession of indifferentism, and leave that subject to become, as has been so well said, "a dead option."

The second principle upon which the religious program of Michigan State College is based is that of the right of religion to be heard in the teaching life of the college. Religion asserts this right to a hearing under the academic doctrine of free inquiry. The values implicit in a belief in Deity are at the very roots of civilization. Religion is the most pervasive and universal factor in human culture. It may be granted that religion must of necessity, therefore, enter into the treatment of all subject-matter. Religion, however, does not really have a hearing when it enters the curriculum only in this manner, as it were, by the servants' entrance. It claims the right to come in by the front door. It asserts its right to stand on its own merits and to preserve its own integrity, both in methods and subject-matter, as a field of human knowledge.

Implicit in this claim is the further principle that religion must be taught, as it were, from the inside. This is to affirm and not to deny the proposition that the ultimate purpose of a university is the pursuit of truth. Every subject has its own material and its own methods. Religion simply claims the right to use the religious method in the pursuit of religious truth. Differences of religious outlooks are differences of conceptualization. Even on the level of mere description they cannot be ignored or overridden without a distortion that makes a caricature of the living thing. Only from within the tradition of a faith can the nature of that faith be communicated to others. The beauties of a stained-glass window appear, as a great preacher has recently observed, only when viewed from the inside. From such study of religion, furthermore, springs not only democratic tolerance but mutual comprehension.

IT IS to provide instruction in religion in this sense that a Department of Religion has been established at Michigan State College. In respect to its objectives and its organization, the work in religion stands on a par with the other offerings of the college. It implements the principle that religion is an integral part of our culture and, even in a public institution, a proper field of knowledge.

The course offerings of the Department of Religion fall into three groups. The first group consists of introductory courses organized about the common aim of presenting a survey of the epistemological, doctrinal, and ethical principles of religious traditions of contemporary America. These courses are presented under the same title and similar catalogue descriptions from Protestant, Roman Catholic, and Jewish points of view. Courses in the second group provide for more specialized studies in particular aspects of the three great traditions. They consist of courses in the Life of Christ, and in the Pauline Epistles (Protestant), in Christian Theology and Christian Ethics (Roman Catholic), and of two courses which deal with Judaism, the one describing Jewish customs and rituals and the other dealing with modern Jewish movements, religious and social. It should be emphasized that these courses are not offered exclusively for students of the faiths mentioned, but are so conducted that they are appropriate for election by any student who wishes to acquire a knowledge of the matters dealt with in the course. There is a great deal of what might be called cross registration in these courses. The Jewish courses, for example, sometimes enroll more non-Jewish than Jewish students.

The courses in the first and second groups which have been described are taught for the most part by chaplains attached to campus religious organizations who hold a graduate degree in theology from an accredited seminary. No remuneration is provided, but these men receive appointment as lecturers and hence enjoy staff status. They participate in staff meetings and their work is subject to the usual amount of academic supervision. The clergy connected with this work have been men of exceptional ability, and the experience at Michigan State with the chaplain-lecturers has been a most happy one.

A third group of courses offered in the department comprises those which represent still more advanced excursions into the field of religious studies. These courses are taught by regular members of the college staff either formally attached to the department on the basis of dual appointment or teaching "on loan" from another department. They are men who have as part of their scholarly specialties a high degree of competence in some phase of religion and who are committed to a belief in religious values. Courses now offered in this third group consist of a series in Christian thought, in which the great creeds are treated both historically and exegetically, a course in Christian ethics, a series of courses on the thought of the Continental reformers, and a course on religion and the social order. Further expansion of the department will take place in this group.

A description of the courses in religion available at Michigan State College would be incomplete if it confined itself to those courses which are formally offered within the Department. A course in the Bible is given under the jurisdiction of the English Department, one in Oriental Religions under the auspices of the Department of Foreign Studies, and one in the Philosophy of Religion in the Department of Philosophy.

All of the courses mentioned carry regular academic credit. A major cannot be taken in religion, but students who wish to concentrate in this field may do so by taking an interdepartmental major in social science which may in large part consist of courses in religion. Those courses in the departments which comprise the third group for the most part carry graduate credit as well, and are often found to be a valuable supplement to studies in other fields. The candidate for a graduate degree may use religion as a minor, including therein, if desired, the courses taught outside the department which have been mentioned.

The courses in religion are a normal part of the curriculum at Michigan State College. They exist for the purpose of instruction, the advancement of knowledge, and the enlightenment of mankind. They are based on the assumption that religion is a field of human knowledge that cannot be neglected or ignored without leaving a serious gap in the curriculum. In accordance with the practical emphasis which has influenced the teaching and curriculum of the college from its inception, an effort is made to teach religion as it manifests itself in the culture of which we are a part, and in the forms in which the student meets with it in his daily life.

NO BRIEF is held by the College for any one form of religion. In its encouragement of activities, in its counseling, and in its teaching, its objectives are in this respect neutral. Although the courses given are in some cases devoted to the description of specific manifestations of religion as found in American civilization, they are not in objective or intention sectarian in nature. On the other hand, the Department of Religion is not concerned with the development of any eclectic or synthetic form of religion. To be so

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The Liberal-Arts College in the Training of Scientists

By HARRY F. LEWIS

An Evaluation in Terms of Productivity

THE Trytten Report published in 1948 lists the baccalaureate sources of those who were awarded earned doctoral degrees in the sciences (Ph.D., Sc.D., D.Eng., or D.P.H.) by institutions during the decade January 1, 1936, to December 31, 1945, inclusive. The survey covered some 28 scientific disciplines, involving 14,905 Doctors' degrees conferred by 90 institutions on graduates of 719 colleges and universities in the United States, together with 22 Canadian and 51 foreign universities.[1] In order to be included in the listing, the schools in the United States must have sent on at least one successful doctoral candidate, whereas the Canadian and foreign universities must have been responsible for at least three.

The information is complete and the summations may be presumed to be relatively accurate. For the first time, it would appear possible to evaluate the work of our colleges and universities in so far as one criterion is concerned, namely, the activity their graduates have exhibited in securing earned science doctorates. This is one measure of the relative departmental "vitality in science" of the various institutions during the period covered by the Trytten survey.

Preliminary evaluation of the Trytten data was attempted in the fourth volume, "Manpower for Research," of the report of the President's Scientific Research Board that had access to the material before its publication. In this volume, the first ten institutions in the country are arranged in order of science doctorates per one thousand students registered. Eight of the ten are listed as colleges, including, in order from second through nine, Haverford, Oberlin, Kalamazoo, Reed, Swarthmore, Massachusetts State, Hope, and DePauw. California Institute of Technology led the list, and Massachusetts Institute of Technology was tenth. Of the first 44 institutions thus ranked, 39 are colleges and three are universities (Chicago, Cornell, and Princeton); the others are the two technical schools.[2] These observations, together with others developed by Blackwood[3] and Bell,[4] led the

[1]National Research Council, Office of Scientific Personnel. *The Baccalaureate Origins of the Science Doctorates Awarded in the United States in the Decade 1936–1945.* Washington, D. C.: National Research Council, 1948.

[2]Steelman, John R. *Science and Public Policy.* "Manpower for Research: A Report to the President's Scientific Research Board." Vol. IV. Washinton, D. C.: United States Government Printing Office, 1947. p. 146.

[3]Blackwood, Oswald. "Undergraduate Origins of American Physicists," *American Journal of Physics*, XII (June, 1944), pp. 149–50.

[4]Bell, R. M. "Origins and Ages of American Physicists," *American Journal of Physics*, XIV (November-December, 1946), pp. 396–98.

writers of the Steelman report to conclude on page 112 that "some of the smaller colleges are outstanding in stimulating undergraduates to become scientists."

In view of the interest shown in the early identification and training of scientists and with this vast amount of authentic information available, it seemed worth while to make a more detailed examination of the figures supplied by the Trytten report. In the preparation of this report, the National Research Council workers collected data from 719 universities, colleges, technical institutions, and teachers' colleges. Since the 1940 edition of *American Universities and Colleges*[5] lists only 725 institutions, it would seem as though few significant four-year collegiate institutions were overlooked in the National Research Council study.

The 719 institutions in the United States were classified in a general manner as follows:

Description	Number in Classification
A. Nationally accredited schools:	
1. Universities of complex structure	124
2. Colleges of arts and science	172
3. Technical institutions	12
4. Teachers' colleges, etc.	12
Total	320
B. Regionally accredited schools:	
1. Universities of complex structure	19
2. Colleges of arts and science	194
3. Technical institutions	12
4. Teachers' colleges, etc.	67
Total	292
C. Without national or regional accreditation:	
1. Universities of complex structure	1
2. Colleges of arts and science	72
3. Technical institutions	10
4. Teachers' colleges, etc.	4
Total	87
D. Schools no longer four-year colleges	8
E. Schools no longer functioning	12
Total	719

[5]Marsh, Clarence Stephen, editor. Washington, D. C.: American Council on Education, 1940.

The number of doctorates in science earned by graduates of the various types of institutions has been estimated and will be found in Table I. Two of every three science doctors had their undergraduate training on a university campus—less than one in three in a liberal-arts college (*see* Columns 5 and 3)

These figures have been further broken down to show the production for institutions of varying degrees

TABLE I

SUMMARY OF THE DATA IN THE TRYTTEN REPORT BY TYPE OF INSTITUTION

Type	Institutions	Percentage of Total	Students Awarded the Science Doctorate*	Percentage of Total
(1)	(2)	(3)	(4)	(5)
Universities of complex structure	144	20.0	9,174	65.6
Colleges of arts and science	438	61.1	4,023	28.8
Technical institutions	34	4.7	322	2.3
Teachers' colleges, etc.	83	11.5	397	2.8
No longer four-year schools	8	1.1	8	0.06
No longer functioning	12	1.6	37	0.3

*The total of Column 4 is 13,961; the difference between that figure and 14,905 represents students taking their undergraduate training in Canadian and foreign universities.

of accreditation in Table II. It is seen that the majority of university-trained scientists received their training in schools where the work was considered to warrant national recognition—only 2 per cent of the university-trained scientists came from schools having either regional or no accreditation. In contrast, only 70 per cent of the college-trained scientists had their undergraduate work in nationally accredited schools. Surprisingly, slightly more than 5 per cent (216) of the college scientists

came from colleges unable to obtain either national or regional accreditation, and 14 per cent (45) of the scientists trained in technical institutions came from schools with neither national or regional accreditation (*see* Column 3).

TABLE II

DISTRIBUTION OF SCIENCE DOCTORATES BY TYPES OF INSTITUTION AND EXTENT OF ACCREDITATION

Type	Schools	Degrees	Average Number per School
(1)	(2)	(3)	(4)
	National Accreditation		
Universities of complex structure	124	8,967	72.0
Colleges of arts and science	172	2,809	16.9
Technical institutions	12	220	18.2
Teachers' colleges, etc.	11	106	9.9
	Regional Accreditation		
Universities of complex structure	19	198	10.0
Colleges of arts and science	194	998	5.1
Technical institutions	12	57	4.9
Teachers' colleges, etc.	67	286	4.2
	Neither		
Universities of complex structure	1	9	9.0
Colleges of arts and sciences	72	216	3.0
Technical institutions	10	45	4.5
Teachers' colleges, etc.	4	5	1.3

IN ORDER to determine how the colleges as a group compare with the universities and other institutions, consideration was given to the total number of students registered by the various groups.[6] The figures selected for use were the registration totals for these same four groups (but not necessarily the same institutions) for the years 1936, 1937, 1938, and 1939.[6] By multiplying by 10/4, we obtain figures for the ten years which are relatively accurate. Using these data, the average registration per institution, the average doctorates per institution, and the doctorates per thousand registrants per institution have been determined from the figures in Table I. The new figures are given in Table III. They would seem to indicate that the conclusion of the Steelman Report with regard to the contributions of the universities to the training of scientists needs clarification in the light of the experience of the 1936–45 decade. The writers of the Steelman Report concluded that "in proportion to their enrollment, the prominent universities . . . sent very few of their undergraduates into scientific careers."[7] It seems probable that the average university in proportion to its enrollment does even better than the average college of arts and science in interesting its graduates in further study of the sciences. In addition, ten universities were responsible for the undergraduate preparation of 20 per cent of the science doctorates, and 20 universities for 30 per cent.

In the statement in the Steelman Report with regard to the universities, the technical schools were also listed as sending few undergraduates into scientific careers. The figures in Table III support this conclusion. In fact, in proportion to their enrollments, the technical schools are responsible for fewer doctorates in science than are the teachers' colleges. In the decade covered by the Trytten Report, the technical institutions, which include more than 10 per cent of the registrations, were responsible for only slightly more than 2 per cent of the doctorates.

[6] Johns, W. C. *Biennial Survey of Education, 1938–1940.* "Higher Education." Vol. I. pp. 3, 10–11.

[7] *Loc. cit.*, p. 111.

REFERENCE was made earlier to the fact that the top ten universities were responsible for the training of 20 per cent of the science doctors. One method of rating these institutions, and the colleges as well, would involve their listing by numbers of potential doctorates. This, of course, takes no account of the relative size of the institutions, but it does give an idea of the ones which are important on a quantity basis. The distribution of schools by numbers trained was first determined; the figures are given in Table IV.

The ten colleges responsible for more than 40 science doctorates include: Brooklyn, Dartmouth, De Pauw, Miami (Ohio), Mt. Holyoke, Oberlin, Reed, Rice, Swarthmore, and Wooster. The 19 in the 31–40 group are: Amherst, Antioch, Carleton, Franklin and Marshall, Haverford, Hope, Hunter, Kalamazoo, Lafayette, Monmouth, Pomona, St. Olaf, Smith, Union, Vassar, Wellesley, and Wesleyan. Clemson Agricultural College and Alabama Polytechnic Institute are classified as colleges and are included in this group of 19.

The two technical institutions in the 40 category are Rensselaer Polytechnic Institute and the Polytechnic Institute of Brooklyn. Not far below them is the Case Institute of Technology. Both the California Institute of Technology and the Massachusetts Institute of Technology are classified by Trytten as universities.

The two universities in the group over 400 are California (Berkeley) and Illinois; Minnesota, Wisconsin, and Chicago fall within the 300–399 bracket; and Michigan, Cornell, City College of New York, Harvard, and Ohio State in the 200–299 bracket.

Possibly a more significant rating would be obtained if the number of science doctorates were to be reflected against the size of the school giving these men their baccalaureate degrees. This was done in the Steelman Report by establishing the ratio of the number of science doctorates for the ten-year period to the number registered in the particular institution in 1939–40. This is satisfactory as a means of comparing one group of institutions with another and was in general the method used in comparing the relative productivity of the various types of institutions. In rating individual institutions, it gives a false picture of the men's colleges as compared with the coeducational institutions, since relatively few women in coeducational schools obtain science doctorates.[8] This was recognized by Blackwood, who used the number of

TABLE III

RELATIVE DOCTORATE PRODUCTIVITY BY TYPE OF INSTITUTION

Type of Institution	Number	Ten-Year Average Registration	Ten-Year Average Doctorates	Number Doctorates per Thousand Registrants
(1)	(2)	(3)	(4)	(5)
Universities of complex structure	144	30,820	63.7	2.07
Colleges of arts and science	438	5,000	9.2	1.84
Technical institutions	34	25,130	9.5	0.38
Teachers' colleges	83	7,520	4.3	0.57

[8] This should be compared with the record of the Eastern women's colleges. Noteworthy is the number of science docorates granted by Bryn Mawr, Goucher, Mt. Holyoke, Smith, Vassar, and Wellesley.

prospective physicists per thousand male students enrolled in 1925–26 as his base line.

A better index would seem to result from a comparison of the number of science doctorates in the period 1936–45 with the number of baccalaureate degrees granted to men for the years which produced the greater share of the doctorates; namely, 1932–41. This method of rating would favor the coeducational schools to the extent that their women graduates earn the science doctorate. In a few random samples, this did not appear too significant.

TABLE IV

DISTRIBUTION OF INSTITUTIONS BY NUMBERS OF POTENTIAL DOCTORATES

Number of Doctorates in Ten Years	Colleges of Arts and Sciences	Technical Schools	Teachers' Colleges	Universities
(1)	(2)	(3)	(4)	(5)
0– 5	248	19	61	12
6–10	70	6	12	.....
11–15	35	2	8	.....
16–20	32	3	1	.....
21–30	24	1	1	.....
31–40	19	1	.....	.....
Over 40	10	2	.....	.....
11– 99	.....	.....	.....	93
100–199	.....	.....	.....	17
200–299	.....	.....	.....	17
300–399	.....	.....	.....	3
Over 400	.....	.....	.....	2

IN ESSENCE, the method outlined has been followed in studying the productivity of the colleges. The operations involved in developing this information were as follows: For a first screening, a rough estimate was made of the number of graduates in a ten-year period for all colleges sending on at least 15 doctors in science by multiplying by ten the number of B.A. and B.S. degrees conferred by the college during 1938 as given in the *College Blue Book* for 1939.

TABLE V

RATING OF COLLEGES AS BACCALAUREATE SOURCES OF SCIENCE DOCTORATES

Institution	Ranking	Men Graduates	Science Doctorates	Percentage Earned Doctorates
(1)	(2)	(3)	(4)	(5)
Reed	1	396	44	11.1
Oberlin*	2	1,165	121	10.4
Chicago*†	3	3,067	312	10.1
Kalamazoo*	4	391	34	8.7
Monmouth*	5	420	33	7.9
Swarthmore	6	667	52	7.8
Antioch*	7	414	31	7.5
DePauw*	8	1,460	103	7.1
Iowa Wesleyan*	9	244	17	7.0
Hiram*	10	315	21	6.7
Hope*	11	543	36	6.6
Central (Missouri)*	12	443	28	6.3
Nebraska Wesleyan*	13	314	17	5.4
Willamette	14	386	20	5.2
Haverford	15.5	676	34	5.0
College of Wooster*	15.5	855	43	5.0
Carleton*	17	777	38	4.9
Bethany (W. Va.)	18	315	15	4.8
Marietta*	19	403	19	4.7
Ottawa (Kansas)*	20	240	11	4.6
St. Olaf*	21	839	38	4.5
Beloit*	22.5	501	22	4.4
Cornell (Iowa)*	22.5	458	20	4.4
Emory	24.5	1,077	45	4.2
Park*	24.5	381	16	4.2
Ripon*	27.5	393	16	4.1
Juniata	27.5	492	20	4.1
Mt. Union*	27.5	582	24	4.1
Allegheny	27.5	661	27	4.1
Wabash*	30	705	28	4.0

*The 22 colleges marked with an asterisk are located in the Middle West.

†The Liberal Arts College of the University of Chicago.

The percentage of science doctorates was then calculated from this estimate of the number of graduates. Schools showing at least 2 per cent of their graduates earning science doctorates were put on the "follow-up list."[9]

[9]Exceptions were the men's colleges where the arbitrary figure of 3 per cent was used, and the two top women's colleges, Goucher and Mt. Holyoke, each with a screening record of almost 2 per cent.

The schools on the follow-up list were asked to furnish the numbers of men and women graduating between 1932 and 1941, inclusive. The figure for the number of men graduating was then used in determining the percentage productivity. Thirty colleges gave figures indicating that 4 per cent or more of their men graduates went on to earn a science doctorate. These 30 schools appear to have been the most productive during the years 1932–41 as producers of potential science doctors. They are listed in Table V in the order of their relative effectiveness. These 30 schools certainly qualify as "outstanding colleges in stimulating undergraduates to become scientists," as the Steelman Report puts it.

The same method of rating, applied broadly to the universities, does not appear to provide as significant information with regard to the vitality of the science departments, for at least a portion of the complex program of the university is not concerned with experimental science. The three eastern universities (Yale, Harvard, and Princeton) are set up somewhat on the same basis as are the colleges of arts and science. In addition, their students are almost entirely men. Using the same method of calculation as that followed in the preliminary screening, Yale sent on slightly better than two men to science doctorates for every one hundred graduates, Harvard 2.5, and Princeton 1.8. The same preliminary screening figures for some of the men's colleges of high standing were 4.6 for Wabash, 4.1 for Haverford, and 3.2 for Wesleyan. The two outstanding institutes of technology (California and Massachusetts) show 7.2 and 2.7, respectively. There is no question but that California Institute of Technology is one of the top five or six institutions in the United States in the extent to which it sends men on to the doctorate in science (it was rated first in the Steelman Report).

NO ATTEMPT has been made to find the reasons for the success achieved by these 30 colleges. Certainly they are not easily determined. The majority of the colleges are located in the Middle West. The majority are of Protestant origin and support. Few are located in large cities, although there are notable exceptions to this. In general, their students come from public high schools. Nor is there any similarity in the matter of endowments and buildings, for their endowments run from a few hundred thousands to many millions of dollars, and their science laboratories from inadequate unventilated firetraps to modern laboratories up to the minute in every regard. Some have what might be called adequate science libraries, others have a few shelves in the general library. The science professors of a few (not more than one-third of the colleges on the list) publish the results of research carried out in their own laboratories; the remainder contribute researches to the pages of the scientific literature through the research contributions of students currently engaged in university, government, or industrial research. Interest in science is generated in many cases by liberal use of the research method in the laboratory work of regularly scheduled courses, as well as in small projects of an experimental nature introduced as a side line.

Many of these top schools had teachers who were outstanding in the

ranks of the science faculties, teachers who had an interest in the student as an individual and who were alert to the possibility that the student might develop a significant interest and skill in a particular field of science and thereby contribute to the good of society. A number of these unusual men were not considered scholars by their fellow faculty members, nor were they recognized as such by the members of their learned societies.[10] Many of these science teachers have retired since the period covered by the Trytten Report, leaving behind a real challenge to their successors.

In this connection the reader is referred to a statement made in the *Wesleyan Alumnus* by R. H. Knapp of the Department of Psychology of Wesleyan University. For three years Mr. Knapp has been chairman of a faculty committee studying the undergraduate training of scientists. He points out the remarkable record of the selected list of liberal-arts colleges studied and the low production rate of the engineering schools. Geographical location, as in the Middle West and Far West, he likewise relates to the production of scientists. Furthermore, he points out that scientists seem to be drawn from homes of humble resources. He gives particular credit to the importance of the quality and personality of particular teachers. Terms such as "vivid personality," "energy, demandingness and enterprise," "warmth, breadth and love of teaching," "professional competence and dignity" depict the successful teachers. He goes on to say that "by virtue of these qualities, these eminent science teachers have been able to exert an order of leadership entirely transcending the narrow definition of the teacher's role." They serve as "models to be admired and emulated, mustering the energies of their students and crystallizing their ambitions." The relationship between student and teacher he describes as "a discipleship in the best sense of the word."[11]

IN SHARP contrast to the effective work of the colleges listed in Table V and discussed earlier, there are many colleges where there seems to be very little interest shown in sending men on to graduate degrees in science. In Table IV it appears that 340 of the 719 institutions in all categories have sent five students or fewer into the science doctorate in the ten-year period. The science departments of these schools would appear to be almost dormant, in this one important regard at least. Of the 340 unproductive institutions, almost three-quarters (or 248) are colleges; Blackwood was right in concluding that "a large number of small colleges, for instance in physics, seem entirely unproductive."[12] In fact, there was no reason for his isolating the field of physics. Fifty-seven per cent of the colleges, half of the technical schools, and two-thirds of the teachers' colleges make up the group of unproductive institutions.[13]

Twenty-eight per cent of the

[*Continued on page 343*]

[10]Blackwood lists the outstanding teachers in the order of the number of physicists they have trained. (*Loc. cit.*, p. 149.)

[11]"Wesleyan's Record in the Teaching of Scientists," *Wesleyan Alumnus*, XXXV (August, 1950), p. 24.

[12]*Loc. cit.*, p. 149.

[13]Blackwood notes that 66 per cent of the colleges recognized in 1925–26 by the American Council on Education did not graduate a single student listed as a physicist in the 1938 *American Men of Science*.

Who Is a Good Professor?

By THOMAS C. DONNELLY

A Constant Concern of College Administrators

IT WAS William James, I believe, who once observed that to discover the truth it was necessary first to gather all the facts, which, he said, was rarely possible. What then should one do if he is faced with the necessity for action without all the facts? Then, said James, the thing to do is to act anyway.

This bit of reasoning illustrates the kind of situation one is faced with in judging who is a good professor, and it also indicates the kind of common sense that must be applied to the problem it presents. We do not have all the facts about professors nor has the teaching profession developed generally agreed upon criteria for the measurement of the worth of a college teacher. The criteria may never be developed, because teachers minister to the mind and spirit, and their influence is intangible and difficult to assess by any precise formula. It would also be difficult to get any general agreement on the meaning of the adjective *good* as applied to a professor. Here, therefore, I use the term simply, in the sense that a college student uses it in referring to a valued professor and in the sense that one professor uses it in referring to an esteemed colleague.

All of us have our conceptions of what constitutes a good professor, impressionistic though they may be, and based on fragmentary observation as they are, which we act upon in the absence of anything better. On any campus anyone and everyone—administrators, faculty members, students and clerical and service workers—can give you a ready approximation of the worth of a faculty member, whether he is good or bad, interesting or dull, hard or easy, friendly or unapproachable; and usually you can elicit even more intimate details about him if you show interest. Thus the absence of common standards of measurement does not, and probably never will, prevent a professor from being judged on what seem to be his merits and shortcomings. While I do not agree entirely with John Erskine that "a good teacher is so rare that the rumor of him spreads with the speed of a scandal," I am willing to grant that a good professor is rare enough to be recognized with some alacrity.

In describing who is a good professor it is perhaps wise to note that he is not a bore. Recently an article recounted the experience of certain North Carolina psychologists who hypnotized students and then taught them certain things they had difficulty in understanding when they were awake. According to the author, the subjects of their experiment, when they became conscious, retained

much of what they were taught while slumbering. The potentialities of the approach interest me because, if they be realized, education for everyone in our time is possible. A professor will need but to put his class to sleep, a not too difficult feat for some already, and keep on lecturing. However, pending the development and testing of the theory, it is going to be necessary to keep students awake, and therefore a good professor cannot be a bore.

It should also be observed that a good professor cannot be a person who does not enjoy young people. On the contrary, he should be genuinely fond of them and stimulated by association with them. I am prompted to this observation because some faculty members hold the opinion that "a college would be a good place in which to work if there were no students to bother one." While I know the thought is often uttered in jest, the attitude thus expressed is, I fear, quite genuine and makes itself felt in a number of ways.

One of the most obvious of its manifestations is the marked emphasis on the establishment of specialized counseling services in colleges, with psychologists and psychiatrists in charge, to whom the job of advising students is shifted. Such a service is no doubt helpful and desirable to a limited extent, especially for a minority of students with pathological difficulties. I have come, however, to have much sympathy with the viewpoint expressed by Jacques Barzun in his book, *Teacher in America*, that teachers are turning over to personnel deans and psychologists too much of the function which can best be exercised by them.[1] The great virtue of a teacher as an adviser, says Barzun, is that he is not a psychiatrist bent on curing or adjusting but one who regards the student who is involved in personal difficulties not as a lunatic, but as a normal healthy animal who can overcome whatever problems momentarily beset him.

HAVING indicated a few of the traits a professor would be better without, let me note the positive ones he needs to possess. Here the temptation is great to enumerate a long list of honorable and rather general virtues, such, for example, as the list compiled by the President's Committee on Higher Education to indicate the qualities needed in a professor. But the list is too long to quote and, besides, a good professor need not have all the virtues.

After reading the qualities needed in a professor cited by the President's Committee, Dean Harold Benjamin observed with settled conviction that, while no one could quarrel with the list, he believed anyone could add to it. Then in a somewhat facetious vein he said that, in addition to needing all the virtues the Committee enumerated, a good professor should also be "a model of patriotism, a respecter of women and elderly people, a kind husband and father, a temperate man, an orator, a master of English style, and," he added quite significantly, in these days of inflation "a possessor of an independent income."

While none of these virtues are unworthy, I believe that both the public and academic administrators get confused sometimes in their estimates of what constitutes a good professor. Too often they come to

[1]Boston: Little, Brown and Company, 1945, p.226.

value conformity with social mores more highly than they do the more important qualifications a teacher must have to be a teacher at all.

The first of these is that the professor be well trained. I would say that one evidence that he is well trained is his possession of the Ph.D. degree, if he is teaching in a field in which the degree is available. Of course, there are specialties, such as art, music, law, and engineering, in which the degree is either not offered or is not generally offered. In these fields other degrees or equivalent experience can be looked upon as acceptable substitutes. But in fields in which the Ph.D. degree has been long available, the college is justified in looking upon it as a state board of medical examiners looks upon the M.D. degree, as a minimum qualification.

There is, I realize, frequent objection taken to this viewpoint: the less formally trained person who by unusual ability or zeal has established a reputation for himself is often cited as proof that the Ph.D. degree is not essential. There are such exceptions, and when they appear one should allow them the credit they deserve. But for every one of these less formally trained persons who are outstanding there are ten others who are not. The medical profession does not permit anyone to practice without the M.D. degree, and this accounts in part for the fact that this profession has greater prestige with the public than any other profession today. College teachers will do well to take note of this.

A SECOND prerequisite of a good professor is that he be able to teach his course in a manner that will arouse and maintain student interest and enthusiasm. There is no one best way to do this; teaching offers a wide latitude for original techniques of presentation and for histrionic talents, and the method one uses with the greatest effectiveness is the one best suited to his personality and temperament. It is important to realize, however, that proficiency in the art of teaching, like proficiency in other skills, is not a gift but something that is gained by conscious effort and an eager willingness to receive suggestions and profit from criticism.

One of the major failings of the present American graduate school is that, although three-fourths of its graduates go immediately into teaching, its major emphasis is on research. In this, the graduate school does an excellent job, turning out competent specialists who, as the historian Carl Becker so well puts it, quietly and patiently labor "to quarry out of the bedrock one stone so it be chiseled foursquare, that it may find its niche in the permanent structure of some future master-builder." But few if any of the graduate schools make any real effort to prepare for teaching—the profession the large majority of their students enter. Research, then, is the main, if not the sole, present preparation for college teaching, and research alone is no adequate preparation for the kind of teaching that seems urgently needed. Since the graduate schools have come in the line of fire on this matter, a number of the more sensitive ones are beginning to concern themselves with their deficiency and to wonder what they might do to remedy it. There is no one and easy solution to the problem, but it needs to be attacked imaginatively and purposefully.

Having a thorough knowledge of one's subject and being able to arouse and maintain student interest are, after all is said, but minimum qualifications for a good professor. If a professor is to rise to real stature and strong influence, he must be able to induce his students to think, to make relevant judgments, and to discriminate among values.

Education cannot be solely concerned with the giving of information, although information is, of course, the basis of any knowledge. I am sometimes taken aback when an instructor complains to me that he has difficulty in "covering" all the material in a syllabus or textbook. This worried concern with "getting through" material betrays a lack of understanding of the rôle of a teacher, and it also indicates that the instructor has little or no faith in the student's ability to read for himself or to become acquainted otherwise with information that is not conveyed in class. It is far better that a student be taught to think through information and come to understand a few important principles than that he be snowed under by a mountain of material and not be able to see the relevance of any of it to the business of living.

A good professor is not satisfied merely to induce a student to think; he will also be concerned with the problem of motivating him to act on what he knows. The notion that reasoning by an open, inquiring mind is not in itself the ultimate end of education but that the school must also be concerned with motivating the individual in his actions is, I know, strongly disputed by some. Yet, education must concern itself with what a man does as well as with what he studies. That the individual act in a socially desirable rather than socially harmful manner has been and always must be the concern of the school as well as of the church and other agencies. A good professor is not unmindful of this and will seek to motivate his students even as did Plato, who urged that the guardians of the state be courageous as well as wise—in short, that they act as well as think on matters of importance.

MATTHEW ARNOLD'S celebrated description of Sophocles epitomizes another important quality of a good professor. Of Sophocles, Arnold said that he "saw life steadily and saw it whole."[2] This quality is of particular significance in these days of specialization when colleges and universities are divided into departments, each with an emphasis on a special subject, and each professor in a department is engaged in teaching only a segment of the departmental specialty. Even freshman and sophomore elementary courses serving as introductory courses in departments are too often planned primarily for the student who expects to be a specialist in the field rather than for those seeking a more generalized outlook.

Specialism, of course, has practical value. In this age many need to become expert in some field to make a living. Yet specialism has its definite limitations even for those who pursue it. Students are going to be members of the community in which they settle as well as doctors, lawyers, merchants, and scientists, and will share a common responsibility as citizens. While we cannot give up training them for

[2] "To a Friend," *Early and Narrative Poems.*

vocations and professions, we must at the same time provide them that breadth of outlook that is indispensable to citizens in a wisely ordered society.

We can seek to overcome the limitations of specialism partly by requiring a student to take a good share of his courses outside his major field, as we now do, notably in the liberal-arts colleges. But in certain professional colleges the curriculum is so crowded with required subjects that there is little or no time left for elective courses. In these schools in particular, although the need exists in all colleges, professors of special subjects need to be men with interests that transcend the narrow bounds of their subject, men who can see the phenomena with which they deal as aspects of a larger whole, men who can "see life steadily and see it whole." Else the graduates of our schools are in danger of becoming adults who are too narrow in their training and interests to assume capably their responsibilities as citizens in our growingly complex and difficult group life.

TO WHAT extent, if any, should a good teacher be expected to engage in research and writing? This is one of the controversial issues in university circles, and there are a number of sharply conflicting attitudes toward it. One of these is that if a professor is a good teacher of the young, that is enough. Another attitude, typical of many of the leading universities of the country, is that a professor's research and writing are of the highest importance, and their hiring and promotion policy is based chiefly on this concept. Between these two ideas is a middle-ground position, namely, that a professor ought to be interested in both teaching and research and publication.

My own opinion is that the first responsibility of a professor is to be a good teacher, and my chief criteria of his competence are the ones I have outlined. On the other hand, there is no denying that for a great many years the research activities of professors in America have contributed immeasurably to the intellectual and physical strength of the nation, and that it would be unwise not to recognize the importance of their contribution and the desirability of encouraging it.

Some colleges resolve the problem by hiring certain men with marked research ability as full-time research workers without teaching responsibilities. Industry, foundations, and government follow the same practice extensively. But for the large majority of colleges this practice is not feasible for financial and other reasons, and, besides, most professors prefer positions combining teaching with research. For professors, even for those whose major interest is research and writing, there seems to be a strange elixir about teaching which is necessary to their enjoyment of living.

It has long seemed to me that any professor who studies and teaches in a field for a number of years, and who enjoys this unusual opportunity to acquire a depth and breadth of knowledge and understanding of a subject that is not the common lot of all, ought to have something worth while to contribute to the generality of men beyond his classroom.

There is a tradition in the teaching profession that it is a calling, and a part of the tradition is that it is the responsibility of those who enter it

not only to pass on the knowledge and understanding which they have acquired from their mentors but also to discover new truths. This tradition is weakening and many professors now look upon teaching as a business, an attitude common among men in other professions. Nevertheless, I deplore the weakening of the tradition and believe that a renaissance is needed to revivify our appreciation of it.

This does not mean that all college professors should immediately set about writing or doing research for the sake of prestige or promotion. There is already too much writing and alleged research done for this purpose that is perfunctory, unimaginative, and unimportant. But of creative and productive work of significance there is and always will be a real need. Professors who can do this kind of work gain in doing it an exhilaration of spirit that is achieved only by those who create or discover, and this timbre of feeling carries over into their teaching and keeps it fresh and vibrant.

It should be recognized, if it is not already, that there is as much original work to be done in the humanities and the social sciences as there is in the more exact sciences. One does not necessarily have to be working on a new and improved atomic bomb to be engaged in worth-while research. Gaining insights into old knowledge by reading, living, and reflection, and by conveying to others in beautiful writing or language stimulating and enlarging thoughts which lead to an appreciation of values beyond the market place, is creative work of an order not to be disdained as research. After James Russell Lowell heard Emerson deliver the Phi Beta Kappa address at Harvard in 1867, he wrote these words:

> Emerson's oration . . . began nowhere and ended everywhere, and yet, as always with that divine man, it left you feeling that something beautiful had passed that way—something more beautiful than anything else, like the rising and setting of stars.[3]

FINALLY, there is another quality a good professor has, a quality which marks him as a valuable member of his institution and as a good citizen. That is a sense of responsibility for the general conduct of the college of which he is a member, and the community and state which support it.

A college faculty is a collection of scholars and teachers. If any group is able to exemplify the democratic process at work and at its best, it should be such a group. Democracy in the college means among other things that the faculty not only enjoys the privilege of vetoing proposals concerning educational policy made by administrative officers; it also means that the faculty has the responsibility of keeping in tune with new educational developments and, on its own initiative, sponsoring programs designed to keep the institution moving ahead. To this end each faculty member should feel it is a part of his service to his college to germinate ideas for increasing its effectiveness. He should also realize it is a dereliction for him to quitclaim to a small group the job of serving on necessary college committees. While a college usually has more committees than it needs, there are always a few

[*Continued on page 343*]

[3]Norton, Charles Eliot, editor. *Letters of James Russell Lowell.* New York: Harper and Brothers Publishers, 1894. Vol. I, p. 393.

The Psychocultural Approach to Social Science

By CURWEN STODDART AND CHARLES H. HESSION

The Description of an Integrated Course at Brooklyn College

INTEGRATION has been a key concept and basic objective of many of the general-education courses in the social sciences which have developed so rapidly in the United States in recent years. Yet, as is true of so many abstractions, the term *integration* has come to mean "many things to many men." Confusion has been compounded by the failure to distinguish and to define clearly the various possible ways in which integration may be realized. This article describes the psychocultural approach which has been emphasized in the experimental course for Freshmen at Brooklyn College during the past academic year.

The subject-matters usually included in attempts at integration vary considerably, but the most common core is made up of the traditional social sciences—sociology, economics, and political science. Sometimes history is added, or should we say mixed in, and occasionally philosophy. The most distinctive feature of the Brooklyn College course is the inclusion of psychology on an equal plane with the other social sciences in a one-year, eight-credit course taught throughout by the same instructor. Previously, sociology and psychology had not been required courses, although they were being taken by large numbers of students. The history department had been working for some years on an integrated course covering the development of Western civilization. It was suggested that psychology and sociology be included equally in a new social-science integration, postponing the social science and historical integration for later consideration. This has allowed great latitude in tackling the problem of integrating the non-historical social sciences and has facilitated the adoption of the "psychocultural" approach as the one most likely to unify and clarify the relations among the several included areas.

The psychocultural approach has largely developed through the combination of the fields of dynamic psychology and cultural anthropology, and it is these sciences which today seem most likely to provide the concepts and the basic materials for the foundations of an integrated social or human science. Our course has attempted to carry over some of these developments on the scientific level into the area of social-science teaching on the freshman or introductory college level.

The psychological approach to the social sciences seeks to under-

stand contemporary man and his society through a genetic and dynamic analysis of the formation of his personality within the cultural milieu. It attempts to trace the effects of personality-shaping institutions, such as child care, early discipline, and emotional influences in infancy, childhood, and adolescence, on the motivations, values, and behavior patterns of the maturing individual. It recognizes both emotional and behavioral conditioning and seeks to relate these acquired tendencies to the patterns of the individual's behavior as an adult in his family, community, social, economic, and political life.

This orientation assumes that every culture produces a particular kind of "social character" (basic or modal personality structure) that broadly reflects its major emphases or themes. It is aware, however, of the differential conditioning of personality which occurs in different subcultures, social classes, ethnic and regional groupings, and varying statuses and rôles. It works with a theory of human nature that recognizes man's irrationality—or perhaps "emotionality" would be a better term—as well as his rational purposive side; it tries to take account of unconscious as well as conscious motivations; finally, it attempts to relate these inner dynamic forces to culturally conditioned drives and social behavior patterns and belief systems.

The psychocultural approach promises much as a fruitful way of examining a society. As yet, the psychologically-minded social anthropologists and allied scientists who have developed it have not fully worked out its relationship to the more traditionally organized disciplines of sociology, economics, and political science. Furthermore, there can hardly be said to be one psychocultural approach, since the concept is being intensively explored by both anthropologists and psychologists.

There are, however, two developments which make the attempt to use such an approach feasible in college courses, even in those on the introductory level. One is the somewhat indefinite but nevertheless discernible general framework which appears in most of the efforts to use this approach, despite their many differences in terminology, conceptual details, and applications to specific cultures. The second is the development of an interest by other social scientists in this approach, and the appearance of a number of works which have tried to utilize it in one way or another in the consideration of problems usually considered a part of the traditional social-science disciplines. Some of these have been found suitable for freshman reading, and their use has evoked a rather surprisingly enthusiastic response from students.[1] We shall attempt to outline some of the major concepts of this basic schema and to indicate the works we have used in the Brooklyn College social-science course that develop or apply them.

THE psychocultural approach goes beyond the simple cultural relativism based on behaviorist psychology, which assumes that man is stamped out in the pattern of his culture, that he is a more or less passive recipient of these overpowering cultural forces, and that normality consists of the best possible fit or

[1] *See* appended reading list, Nos. 1–14.

adjustment to any given set of cultural norms. In the works of Maslow, Fromm, DeGrazia, and Overstreet, for example, we find the explicit or implicit assumption that man is an active or positive force in his own right, that he has certain basic needs that are the product of his special biopsychological nature, that these are in constant interaction with the cultural environment in which the individual develops, and that the individual is affected dynamically or emotionally by this interaction.[2]

It even seems possible to say that those using this concept of human nature would agree that man's needs above the physiological and survival level center around the basic needs for protection, affection, security, and "belongingness" on the one hand, and, at the highest level of development, around the characteristically human needs for continuous growth, freedom, independence, and individual self-realization. They also seem to agree that cultures meet or thwart these needs in varying ways and to different degrees, so that some cultures can be considered more "human" than others.

Such a bio-psycho-social orientation tends to be universalistic in its conceptions of man's basic nature while it is relativistic in regard to recognition of the specific and varying cultural channels through which this nature is shaped and through which it then expresses itself. It leads to the discussion of such extremely interesting questions as those of healthy, mature, and ideal personality characteristics, and to the examination of cultures and institutions in terms of whether and to what extent they are human-oriented.

[2]*See* appended reading list, Nos. 5, 6, 9, 10.

WHILE the psychocultural approach is psychological, it is also cultural, and equally so. Stuart Chase, in his *Proper Study of Mankind*, points up the significance of the culture concept rather neatly:

> The culture concept of the anthropologists and sociologists is coming to be regarded as the foundation stone of the social sciences.
>
> The culture concept greatly enlarges one's perspective. The effect is something akin to that astonishing photograph, taken from 80 miles straight up in a V-2, which showed the whole Colorado River region, the Gulf of California, and the great curve of the earth bending the Pacific Ocean far to the West. . . . It takes us clean out of Western Civilization and its values—or whatever civilization we happen to belong to—and shows us what a Congo man, a Moscow man, a Borneo man and a Detroit man have in common.
>
> On the other hand, it shows how every human being is shaped by his culture in ways far below the level of consciousness. His thoughts, his language, his tool-using muscles, his tastes, all are developed in special patterns. To use them at all he must use them as he learned to do in childhood and in youth. . . . The anthropologists and sociologists find that the individual is . . . a product of his culture; he is a living part of his group, and can be understood and appraised only in relation to it. To judge him outside this matrix is like trying to understand a fish without reference to water.[3]

The appreciation of cultural relativity which is necessary to give true perspective on one's own culture is also aided in our course by the reading of Kluckhohn's *Mirror for Man*, Benedict's *Patterns of Culture*, and Schaffner's *Fatherland*, as well as some short works of Margaret

[3]New York: Harper and Brothers, 1948. pp. 59–60, 62.

Mead's. However, the psychocultural approach goes beyond cultural relativism, as previously stated, because it posits man and his basic needs and his emotional potential as positive forces acting and reacting in particular ways in different cultures. This leads us to the next and perhaps most important concept—that of dynamic adaptation.

THE most significant integrative idea linking psychology and the social sciences today is the concept of "personality-in-culture." In attempting to relate personality development to culture and culture to personality expression, this approach finds its core in what Fromm calls the process of dynamic adaptation.[4] According to Fromm, Kardiner, Alexander, Maslow, and other dynamic psychologists, the developing human being is not merely a passive absorbent of conditioned responses and reflexes. The individual reacts dynamically and emotionally according to the way in which culturally influenced individuals and situations meet or thwart his basic needs. Particularly during maturation, for the first fifteen or twenty years, the individual develops his personality in response to the interpersonal experiences he undergoes. During this period he acquires the fundamental attitudes toward himself, toward others, and toward others in relation to himself which constitute the core of his personality. He develops emotional habits of anxiety and hostility and ways of allaying or releasing these forces which in turn become secondary or acquired personality drives. Another way of saying it would be that the individual's original drives and needs are rerouted by threatening and thwarting experiences, so that he develops what Horney calls "strategies" of behavior which afford at least some minimal protection or satisfaction. Out of anxiety about and hostility toward others he may develop characteristic tendencies toward aggressiveness, toward submission, toward withdrawal and isolation, or, perchance, toward balanced self-sufficiency and harmonious co-operation with others.

The concept of dynamic adaptation, while rather complex and tentative in many of its details, is sufficiently clear in general outline for students to be able to grasp. We are becoming more and more aware of the fact that human beings develop emotional habits as well as behavior habits, and that the most important of these are the habitual emotional reactions one has about one's self and other persons. There is nothing any more mysterious about these because we call them "unconscious" than there is about the lack of conscious attention with which we walk or write or swim or eat. The recognition of this kind of emotional adaptation and reaction to thwarting of basic needs, however, has lagged behind the awareness of more overt behavior adaptation—of learning in the traditional sense. Only when we couple the two and give proper weight to the emotional dynamics of man, can we hope to explain the strength of such acquired drives as anxiety, fear, the need to submit, of hate, aggression, and the lust for power, of selfishness, suspicion, and mistrust, or the other emotional forces that are at the core of most of our personal, social, and even international problems.

[4] *Escape from Freedom.* pp. 15–16.

IN DEALING with the problem of how given personality patterns are formed and how they express themselves through various institutionalized behavior-patterns, we must make two distinctions regarding the nature of institutions and their functions. The first is that between what Kardiner calls "primary" and "secondary" institutions, or what might be termed personality-forming and personality-expressing institutions.[5] The former would be those areas of the culture which impinge on the growing individual either through the medium of his parents or more directly as he grows older. The latter are the more adult behavior-patterns through which adapted or acquired drives of developed personalities express themselves. While care must be taken to avoid oversharp dichotomization here, such a distinction marks a great step forward in integrating concepts of personality development with the culture concept.

But we must also make clear, in treating cultures, the distinction which is related to this first one, between the "technical" or means-providing functions of institutions and their "psychological" or emotional functions. The common institutions which we find in all cultures—family, language, an economic system, at least rudimentary political organs and laws, belief and value systems—are all necessary if any group is to survive as a human society. We find, however, that man, unlike the other animal species, does not have to concern himself solely with survival, and that he often lives far above such a level. He has developed much greater capacities and sensitivities than the other animals, and in his unique human cultural environment these become the biological basis for his higher psychological needs. These needs for protection, security, freedom, and full self-development become emotionally charged, and must be expressed through and at least partially satisfied by his family and community life, his economic activity, his political and belief systems, his aesthetic and intellectual pursuits.

In fact, it might well be argued that the live connection—the one with emotional force—that binds the individual to his culture is the emotional satisfactions he obtains through participation in various socially sanctioned activities which express and gratify his less conscious basic or adapted needs. The strong hold which given activities, beliefs, and values may have on people is due not so much to rational self-interest or to their survival value, for there is often sufficient leeway so that institutions and practices are found running directly counter to what we might consider rational, efficient, or economical purposes. Our somewhat sociocentric illusions about our own rationality and efficiency have tended to blind us to the fact that while a certain minimum of these is necessary if a group is to survive, above this level the satisfaction of deep emotionally charged personality needs is one of the chief functions of social institutions and belief systems. Recognition of this psychological function of institutions helps us greatly in understanding how threats to given institutions become

[5] *See Psychological Frontiers of Society* (New York: Columbia University Press, 1945), *and* Chaps. I and II of *The Individual and His Society*, by the same author (New York: Columbia University Press, 1939).

in effect threats to the self of the individuals concerned. The consequent tenacity of institutions often persists to the point where they threaten survival and even result in destruction of the society.

The social sciences have in the past tended to concern themselves primarily with the technical, rational, and efficient aspects of institutions whose ultimate purposes were accepted without question and were usually somewhat rationalized. The study of marriage and the family, of economic institutions, of the state, law, and politics tended to deal with how these institutions worked and how they developed into the rational and superior forms which we find in our own particular culture. Such endeavors were often forced into the realm of the normative or the transcendental in the effort to apply an integrative principle of rational consistency to facts of social reality that denied it.

The psychocultural approach attempts to understand the integration of institutions in a culture in terms of the special personality drives and emotional characteristics that it develops in its people, and to trace these through the particular types of behavior which satisfy them for at least some, if not most, of the individuals in the group. It recognizes that man is to some extent a rational creature but that his reason is an instrument he uses within a framework of needs, emotions, and culturally conditioned habits of thought and behavior which are somewhat unconscious and seldom subjected to rational analysis. It recognizes that the study of how institutions operate is of vital importance—how children are brought up, how the community and family are organized, how laws are created and enforced or social conformity achieved, how people wrest their subsistence from nature, how values and belief systems are inculcated and sanctioned—without detailed factual analysis of these, we cannot know anything about a society and its culture. But we must go further if we are to appreciate the significance, the psychological meaning, of these activities for the people who perform them. This emerges only when we fit such behavior patterns into a psychocultural *Gestalt* which includes the basic drives and particular personality patterns of that group.

IT IS obvious that the application of psychocultural concepts to our complicated Western culture is a problem of enormous magnitude. To try to transfer methods and hypotheses developed in analyzing small groups with relatively homogeneous cultural traits, usually somewhat simple in pattern compared with our own, to the analysis of societies with millions of members and enormous divergencies in subcultural patterns is a procedure both daring and dangerous. Yet, if we are to understand our own personality tendencies and their cultural source and expression, the attempt must be made. A few pioneering psychologists, anthropologists, and other social scientists have hazarded the attack on several phases of our personality tendencies and their cultural determinants and implications. Among those we have used, stressing the tentative and hypothetical character of much of their work, have

been the studies of DeGrazia, Fromm, Gillen, Levy and Munroe, Lynd, Maslow, Mead, Overstreet, and Schaffner. Various instructors have utilized the works of Gorer, Kardiner, Kluckhohn and Murray, and Gardner Murphy in class without requiring students to read them.

The central theme that emerges from these works emphasizes, in its psychological analysis, the development among large numbers of our people, particularly in the lower middle and upper middle classes, of the adapted need for "self-vindication," as Kardiner terms it. Fromm, Maslow, and DeGrazia all recognize the significance of this need and its expression through the more culturally conditioned drives of personal ambition, devotion to work, strong needs for success and upward social mobility, and the drives toward money-making and ostentatious consumption. On the cultural side, the more daring hypotheses of Gorer, and the more scientific application of the approach of cultural anthropology to the study of American communities by Warner and his associates, relate these drives to the open economic opportunities and the mobile social-class structure of our society and give concrete meaning to their operation. The use of Hollingshead's study of *Elmtown's Youth* proved extremely interesting to students with a metropolitan background, illumining the social-class system as it impinges on adolescents conditioned to these strivings in a small Midwestern town.

Levy and Munroe deal with the problems of adolescence, marriage and family life, and the relation of the rôles of husband and wife in situations where the success-strivings of each create problems and difficulties within the family. Fromm attempts an analysis of the development of our dynamic compulsions to work, innovate, and accumulate, and tries to tie them to the dynamic aspects of our rapid increase in productivity and our central concern with economic gain. He also presents some interesting hypotheses with political implications concerning our ambivalent attitudes toward freedom. DeGrazia attempts to trace the effects of our need for security on political attitudes, values, and belief systems, and presents an analysis of some of our conflicting cultural directives and values. In all of this, perhaps the central theme that is beginning to emerge is the conflict in our personalities and in our culture between the need for security and the need for freedom. It must be admitted, however, that this is a highly tentative formulation.

In fact, generally, it must be granted that there are vast gaps in the pattern that emerges, that much of our knowledge is highly speculative, that some of the ideas seem self-contradictory, and that an enormous amount of scientific work remains to be done before we can say that an entirely acceptable level has been attained for this type of analysis.

THE question then arises, Is it proper to present this kind of material to college Freshmen? We think it is. We can see nothing particularly dangerous in giving students a view of the thrilling frontiers of a group of sciences that are still in the exploratory stage no matter which way we move. It can hardly

be maintained that the social sciences have yet developed a body of knowledge that can be affirmed as settled, accepted, and definitive. The psychocultural approach has the virtue of attempting what most techniques do not try—to develop a concept of human nature and of culture that presents possible integrative patterns and that aims at the real unknowns—the hidden emotional and motivational forces in man that have until now defied our efforts at understanding.

We believe that great things are stirring on these frontiers of psychosocial science, and that our students have gained more from a view of the exciting vistas being opened up than they would have from the usual survey course of three to four traditional areas with little to unify them. We are also inclined to think that the understanding of our social institutions which we have attempted to give our students is increased by an appreciation of how they fit into a *Gestalt* which gives them meaning. This experiment of a tour of the frontiers and no man's lands of social science has proved exciting and stimulating to our students and has led many to do work on their own considerably beyond the required readings. We are inclined to believe that this approach is both scientifically and pedagogically superior to the survey course, and perhaps even to the historical integrations as well.

THIS leads us to a brief consideration of the pedagogical aims of our course, and of the techniques employed to achieve them. While the psychocultural approach affords opportunities for scientific and intellectual integration, it goes beyond this, we believe, in terms of the broader aims set for this course as part of a program of general education. The main purpose of the course might be said to be the furthering of the intellectual and personality development of the student as an individual and as a member of our society with its particular culture and social problems.

Our intellectual aims are, through emphasis on scientific method, to help the student achieve intellectual independence—the ability to stand on his own feet and to think for himself. This means not only the faculty of examining ideas critically, in terms of the evidence on which they are based, but the ability, equally important in the undeveloped social sciences, to appreciate hypotheses and ideas-in-process without committing one's self completely. Through the reading and discussion of Chase and Lynd, we bring out the nature of the social sciences, respect for their aspirations and difficulties, and knowledge of some of their accomplishments and potentialities. The examination of such empirical studies as those of Hollingshead and Schaffner gives further opportunity for methodological discussion.

In attempting to encourage independent thinking, we utilize a teaching technique emphasizing student discussion and self-criticism backed by the instructor's constant reference to the principles of scientific method. For example, if students do not themselves bring out through discussion of each other's ideas the evidence for and against propositions and the assumptions and implications which grow out of them, the instructor tries to fill the gap through question-

ing. Finally, in relating our analysis to social values and crucial social problems of our time, the instructors try to avoid the temptation to provide answers, in the effort to motivate students toward further reading, thought, and analysis.

Our second aim, that of development of the student's personality, we also try to achieve both through subject-matter content and through use of the discussion method. In classroom procedure we employ almost exclusively the discussion method in college teaching as presented by several University of Chicago instructors who have experimented extensively with this device.[6] Students meet in small sections of twenty-five, three times weekly, another hour being devoted to a large lecture meeting, the showing of films, or panel discussions and forums. The aim in the discussion sessions is to give the students as much responsibility as is feasible for expressing and summarizing what they have read, for criticizing it, for drawing out its implications, and for relating it to their own knowledge and personal experience. Classroom atmosphere is permissive, and the attitude toward students is that they are nearing adulthood and will develop mature personality traits if given the opportunity to participate in a situation designed to stimulate individual expression, reflection, the ability to accept criticism from one's peers, and the acquisition of good manners and consideration for others. The response of students to this technique has been excellent in terms of group morale and of a closer and more informal relationship with the instructor. Much improvement still remains to be made in the efficiency of the discussion technique itself, since it seems to require the development of new habits of self-discipline on the part of both student and instructor.

Closely related to this goal of personality development is the inclusion in the course of material dealing with the concepts of mature and healthy personality and of treatment of the problems of personal and social values. The psychocultural approach facilitates the discussion of values on all possible levels—values derived from the nature of man's basic needs, from his adapted emotional needs and drives, from his culturally conditioned channels of satisfactory activity, from his belief systems and ideal or aspirational values, both personal and social. The inclusion of such value discussions has enormously stimulated student interest in the course. There is the feeling, grounded in the student's naturally holistic approach to life, that to stop short of value discussions, of what is good and what bad, and what we mean by these in the interest of a supposed scientific objectivity, is to cut off the inquiry at exactly the point where it gets most interesting and vital. There can, after all, be little doubt that man is a motivated and a value-seeking animal, and that the whole area of man and his culture and his personal and social problems teems with implications of value and judgments of value. These are necessarily in the minds of both students and faculty in approaching any aspect of our contemporary world. We are

[6] *Teaching by Discussion in the College Program* (Report of a Study Made by Five Members of the Faculty of the College of the University of Chicago, 1947–48). Chicago: University of Chicago Press.

convinced that frank and open recognition of this teleological interest is necessary for both intellectual and pedagogical reasons.

From the scientific viewpoint, there seems to be growing agreement in the social sciences that the very nature of our subject-matter necessitates a broader view of man than has been attained in the past. This goes so far today as the hypothesis that social science should not only concern itself with a positivistic analysis of the psychological and social origins of men's values but should also examine the normative problem of what are good or desirable values. Whether we consider this problem a philosophical, a scientific, or a co-operative one, we believe that a truly integrated course cannot stop with a mere positivistic and relativistic description of values and how they come to be. Students are interested in evaluating values, and we are inevitably led into a discussion of whether certain practices or institutions or values are good. Here, we can and do try to pursue an objective if not a scientific course, by helping to make clear to students the alternative grounds on which ideal systems of values may be based.

From the point of view of pedagogy and personality development such discussions are useful in helping students, subject to considerable cross currents in the forces impinging on them, to formulate more clearly their own set of values. Many students have reported that the reading of such books as *The Mature Mind* have considerably affected their personal attitudes toward themselves and toward other people. One student wrote as follows:

> On pages 42–43 of Overstreet's *The Mature Mind*, I found something that almost completely changed my outlook upon the rest of mankind. He says that "the human individual is not self-contained . . . the mature person is one who continues both to add new people to those he cares about and to discover new bases of fellowship with those already familiar." This, together with Fromm's conception of the value of a spontaneous relationship with, and acceptance of, other individuals, has enabled me to see more clearly and to understand much better, the common failings of men and the reasons for these failings. . . . The culture concept also helps to explain these failings. Now, instead of being contemptuous of other individuals, I feel that they are not wholly responsible for their pattern of behavior, and I accept them as they are and try to influence them to change.

THE general reaction of the students to the course has been extremely favorable. The novelty of the psychological and sociological subject-matter and approach, the emphasis on values, the freedom of classroom discussion, the relating of personal experiences to problems under discussion, the informal classes and the greater familiarity with instructors, the feeling of importance derived from participating in an experiment and in doing something new—all these have contributed to enthusiastic acceptance of the course. In a questionnaire survey of reactions and criticisms filled out by the three hundred who took the course for the first time, over 81 per cent expressed approval of the course as a whole. There were many criticisms of specific techniques and implementation of the aims of the course, but approval of the general aims

and approach was high. While there was of course no attempt to proselytize in the course, the reaction of one professed science major is interesting:

I now value social science much more than I formerly did. Before I attended college, social science to me was a body of dates and facts labeled history. I now see the necessity for studying the social sciences and for doing research in them, for without an adequate knowledge of social psychology, sociology, cultural anthropology, political science, and economics, men are at a complete loss. . . . It was my intention to major in chemistry for no other reason than that I had nothing better to major in, but I have found that better thing now. I hope to major in psychology and minor in sociology and do graduate work in this field. While I still value science highly . . . I see that it has gone far beyond the social sciences and that we must bring them up to its level of advancement in order to keep our civilization safe.

The students' interest in the course was intensified by the use of materials not written primarily as textbooks. We have sought books and scientific studies interestingly written for the intelligent adult. We have found that students are capable of handling both stimulating hypothetical formulations and interesting empirical studies which we used in our development of the course. They judged these much more interesting than the textbooks prepared for the social-science survey or devoted to traditional subject-matter, both of which we have also used to some extent.

It is our hope, as better materials become available, and as our organization of the course improves, to be even more successful in helping our students to become responsible citizens, concerned with improving and applying our social knowledge for peace and human betterment. Perhaps courses like this can help to offset the glamor of the physical and natural sciences in attracting our superior students, for as one of them has said, "We must interest our best brains in the social sciences if humanity is to survive."

Major Readings for Social Science 1–2, 1949–50, Brooklyn College

Scientific Method and Social Science—

1. Chase, Stuart. *The Proper Study of Mankind.* New York: Harper and Brothers. 1948.
2. Kluckhohn, Clyde. *Mirror for Man.* New York: Whittlesey House, 1949.
3. Lynd, Robert S. *Knowledge for What?* Princeton, New Jersey: Princeton University Press, 1939.

The Psychocultural Approach—

4. Benedict, Ruth. *Patterns of Culture.* (Mentor Books edition). New York: New American Library, 1948.
5. DeGrazia, Sebastian. *The Political Community.* Chicago: University of Chicago Press, 1948.
6. Fromm, Erich. *Escape from Freedom.* New York: Farrar and Rinehart, Inc., 1941.
7. Horney, Karen. *The Neurotic Personality of Our Time.* (Chaps. x, xi, xii). New York: W. W. Norton and Company, Inc., 1937.
8. Kluckhohn, Clyde, and Murray, Henry A., editors. *Personality in Nature, Society, and Culture.* ("Personality Formation from the Comparative Cultural Point of View," by John Gillin; "Social Change and Cultural Surrogates," and "Administrative Contributions to Democratic Character Formation at the Adolescent Level," by Margaret Mead). New York: Alfred A. Knopf, 1948.
9. Maslow, A. H. "Man as an Animal," "Dynamic Theory of Human Motivation," "Dynamics of Psychological Security and Insecurity," "Authoritarian Character Structure." Mimeographed, Brooklyn College Bookstore.

[*Continued on page 344*]

· *With the* · Technicians ·

The College Evaluation Officer[1]

Some twenty years ago, a number of officials were performing similar administrative duties at different colleges across the country. If asked what they did, they could not have given a title that had common currency. They had to say that they did some or all of the following: worked with admissions, selected some tests and constructed others, evaluated records, administered group tests, kept students' records, advised students who were having difficulty with their studies, conducted investigations of how students distributed their study time, maintained contact with feeder schools, and calculated the relationship between entrance tests and high-school marks, on the one hand, and achievement in specific courses or average marks, on the other. Sometime in the early '30's persons engaged in this work became so regular a part of college administrations that they found it natural to agree on a title. Nowadays, it is sufficient for one to say that he is a student personnel officer to make clear the general scope and nature of his duties.

Today, we can see the outlines of a new position emerging. I have called the holder of this position the college evaluation officer. In small institutions his functions may be performed, in addition to other duties, by a student personnel officer, a director of admissions, or a registrar with appropriate training in psychometrics. Generally speaking, however, there is a place in any four-year college or junior college for a full-time college evaluation officer with doctoral training in educational measurement and evaluation. His background of training and experience should prepare him to give the following types of advisory assistance to the faculty generally and individually:

1. Defining objectives of course units, whole courses, or broader offerings, and describing corresponding behavior outcomes expected in students

Whenever a test is made, such definitions are basic. In helping an individual or a committee build a test for a course, the evaluation officer must begin by asking what the objectives of the course are and what the students should be expected to do better as a result of the course. He must have the ability patiently to direct attention to this need and to assist in formulating statements of objectives in such a way as to promote more valid appraisal than is accomplished by asking for the recital of memorized data.

2. Developing tests calculated to reflect gains in the outcomes expected

The evaluation officer must have an ample supply of sample item types to offer and an ability to recast unsatisfactory material into item types better adapted to get at the outcomes expected. He must offer these wares tentatively.

3. Improving the objectivity of marking essay tests by use of carefully prepared marking keys

Particularly in evaluating advanced

[1]Reported by Warren G. Findley, Director of Test Development, Educational Testing Service.

work of small groups, essay-type testing is often more efficient and valid than objective testing. In larger groups, efficiency may be lost but superior validity and reliability may be retained by essay-type testing which involves the presentation of whole-field problems, corrected by objectively defined marking keys. Advice on how to measure the consistency of independent appraisals of the same work-product may be the aid sought first.

4. Improving the objectivity, reliability, and efficiency of testing large groups through substitution of objective tests for essay tests

The large numbers of students enrolled in general courses will usually lead to appeals from faculty members for whatever assistance can be given in this regard. A manual of suggestions about pitfalls in item construction, with illustrations adapted to local course offerings, should prove helpful.

5. Improving the face validity of tests by requiring in them applications of what has been taught, through exercises based on situations in which the student may later have to apply his learning

This applies particularly to professional courses. It calls for quick learning on the part of the evaluation officer, who must either independently conceive situations to which the student may be required to apply his learning later or, better, in co-operation with the instructor anticipate such situations and set a few sample exercises.

6. Identifying effective and ineffective questions or problems by means of statistical techniques of item analysis, and revising test materials in the light of detailed data on types of response to questions, or on alternatives (in the case of multiple-choice items)

Very simple techniques should be used in order to encourage maximum understanding and use of the results. With sufficient effort and ingenuity, such methods can be extended to evaluation of essay material marked by key.

7. Showing the value, and teaching the optimum technique, of going over in class, test questions that have been given in mid-term tests, both as a teaching device and as a means of learning weaknesses of questions and of instruction

The primary emphasis may well be put on the values as a teaching device. Success in this depends greatly on success in getting simple item-analysis data back quickly to the instructor.

8. Encouraging the use of pre-course tests as the basis for student motivation, adaptation of instruction to student backgrounds, and appraisal of gains attributable to instruction

This approach is most likely to win acceptance when the backgrounds of students beginning a course are known to vary widely but uncertainly. Otherwise, it is likely to come only in response to the request of a faculty committee on evaluation.

9. Securing student evaluations of course content, method, or instructors, as a guide to improvement

A request for assistance in this area is a mark of professional maturity on the part of those asking. Such work must be a co-operative venture with the faculty. If successfully handled in one department, it is apt to spread to others. It may be well to start with content and method evaluations and leave evaluation of instructors until later.

10. Guiding or doing related research studies

Generally, more is gained by guiding elementary research done by faculty or the staff than by doing more advanced research for them.

11. Selecting standardized tests and testing programs for use in local programs of curriculum appraisal and student guidance, selection, and placement

Here the evaluation officer's work overlaps in part the duties of others,

including those of the student personnel officer. On such tests he should probably be the best-informed person on campus and so a proper adviser.

These eleven responsibilities of a college evaluation officer constitute a job description. Whether the duties outlined should be performed to the best of his ability by one person or whether he should head a staff, and how large a staff, will depend on the size and complexity of his institution and the history of testing there. In a number of places, central examining offices grow up first, with responsibility for preparing objective tests for the general-education courses of the first two years; later these staffs perform some or all of the other duties described. Elsewhere, evaluation specialists are given general duties out of which develop needs for supplementary aid.

Regardless of the origin or development of the functions of the college evaluation officer, there appear to be two basic factors essential to his successful activity. First, the evaluation officer must work as an adviser, able and ready to give help to faculty members toward the adequate performance of the evaluative duties of their positions. He must take faculty members as he finds them, help them with the problems they believe to be pressing at the moment, and then build on and through success in such advisory service to encourage them to work co-operatively on more and more fundamental problems.[2]

The second essential factor is the prestige that results from recognition by the highest administrative authorities that comparable, valid, reliable evaluations are important to the effective functioning of the institution. Evaluation of the educational development of individual students, as well as of the performance of the institution as a whole, needs to be recognized as an administrative responsibility. This is not to say that the administration should set up the evaluation office and attempt to prescribe to faculty members that they be guided by the evaluation officer. That would be the kiss of death for the work. However, it is highly desirable that administrative authorities express themselves on and off campus as interested in evaluation. It is important that they make it clear that they believe course marks should stand for equivalent performance from department to department and should bear as close a relation as possible to subsequent success in related activities.

It may be difficult to perceive any direct connection between what I have said in this article and the interests of the organization I represent. Educational Testing Service is involved in the preparation of a great many testing programs that have as their function the prediction of success in academic and professional training. We find ourselves, along with other test-producing agencies, on a plateau so far as improving such predictions is concerned. We believe that the next step forward will be taken only when better criterion measures of college achievement become available. It is almost fair to say that we can now conceive tests more valid as indicators of

[2] *See* Greene, James E., and Findley, Warren G., "Evaluative Procedures for the Improvement of Instruction," *Educational Record*, XXX (January, 1949), pp. 36–38, 42–44; *and* Troyer, Maurice E., "An Evaluation-Service Center," JOURNAL OF HIGHER EDUCATION, XX (March, 1949), pp. 152–55.

promise based on past performance than college marks are valid as measures of further achievement. College evaluation officers should contribute greatly to improving the validity and reliability of the criteria toward which our measures must be pointed.

Modern-Language Requirements in Arts Colleges[1]

Many colleges have found that students who have had two years of a modern language in high school are not equipped to continue with the intermediate course in college; they either have been inadequately prepared or have forgotten content previously learned. The conditions have been aggravated by the traditional practice of refusing college credit for modern-language content supposedly covered in high school. Many deans replying to the questions in the study here reported expressed the opinion that the overlapping is not notably greater than that in English, history, mathematics, and even chemistry; and credit is given for beginning courses in these fields. Others, however, believe that conditions in modern languages are not exactly comparable.

This report gives the results of an inquiry undertaken primarily to determine the practice of representative colleges in dealing with the problem of requirements and credits for the study of a modern language begun in high school and continued in college. Related problems included concern required hours per week of elementary and intermediate language courses and policies governing the use of proficiency examinations, as opposed to credit-hours, for meeting college modern-language requirements.

A brief questionnaire, explaining the problem and asking pertinent questions, was sent to 130 colleges and universities, largely in the Middle West, representing all types of institutions: tax-supported and private, large and small, urban and rural. Representatives of 100 institutions answered the questionnaire.[2]

In reply to a question concerning the frequency of cases in which the students' high-school preparation in a modern language is inadequate for the pursuit of intermediate college courses, the colleges answered as follows:

	Number of Colleges
Very frequently	18
Often	43
Sometimes	33
Rarely	6
Never	0

The distribution of replies clearly indicates that the problem is a common one. It occurs either very frequently or often in 61 colleges included in this study. Only six say that it occurs rarely, and no college says that it never occurs. If this sample of colleges is a representative one, it would seem that one of the most common administrative problems in the college is what to do about the student who has had a modern language in high school which he wishes to continue studying in college.

Each college was asked whether or not it gives college credit for elementary courses in modern languages to students who have had credit for two years of that same language in

[1]Reported by Wilfred M. Mallon, Regional Director of Education, Missouri Province, Jesuit Education Association.

[2]The Editorial Office of the JOURNAL will send a list of the colleges included in this study upon request.

high school. Twenty-four colleges always give credit to students taking an elementary course in a language for which he has received two years of credit in high school. All colleges, however, appear to reserve for themselves the determination of whether a Freshman shall take the elementary or the intermediate course. This decision is ordinarily made on the basis of tests of competency. Thirty-eight colleges give credit "sometimes" in similar circumstances. Therefore 62 colleges grant credit in elementary language to the student who has had two years of the same language in high school either always or sometimes. Twenty of the 38 colleges which sometimes give college credit explained the circumstances under which they give it as follows:

1. Eleven give college credit if the student does not need the high-school units to meet the total units required for college entrance. They speak of "canceling" the high-school credit.
2. Four give college credit that duplicates only one year of the high-school language, but do not permit the student who has had two years of a language in high school to take the elementary course in college and get full credit for it.
3. Three grant college credit if the student makes an above-average mark in the college course. One specifies a mark of *B;* another a mark of 85.
4. Two grant half-credit.

The most common circumstance mentioned—granting college credit if the canceling of high-school credit will not reduce the student's units below the total for college admission—is a procedure criticized by many students of college administration as an artificial record adjustment. Certainly, if the student is in college and is qualified to do college work, he will not become less qualified by a paper transaction which cancels two of his high-school units. Administrators are increasingly of the opinion that, once a student has been found qualified to do college work, there should be no reference to his high-school units.

Several institutions have found that it is almost futile to require mere auditing to bring students up to competence for intermediate courses. Others say the difficulty of persuading students to take the elementary course after they have had two years of the language in high school results in many of them getting misplaced in the intermediate course. Students appear to take the auditing of a course so lightly that they do not make progress, and they object very much to loss of college credit.

A study of the 36 institutions which "never" give college credit under the stated circumstances reveals no common denominator. They are distributed over most of the states and over all types of institutions. Of the two largest institutions in the study, one always gives such credit and the other never gives it.

To the question whether or not the college thinks it proper to give credit for such apparent repetition, in spite of the qualifying clause, "if you do not give such credit," 26 of the 62 institutions which always or sometimes give credit did answer the question. The responses of these 26 which give credit are reported in the first column of the following table:

	Give Credit	Do Not Give Credit
Convinced it should be given	9	3
It is worth considering	12	17
Do not favor it	3	11
It should not be given	2	5
Total	26	36

It may be assumed that the other 36 institutions which always or sometimes give credit under the described conditions believe that it is proper to give the credit. Therefore, approximately 8 per cent of the colleges giving credit under these circumstances either do not favor giving it or think that it should not be given. All five of these institutions give credit "sometimes." Two of them give credit only if reducing high-school units correspondingly will not put the student below the unit requirement for admission; two give credit covering only one year of the high-school language; and one gives half-credit. It would, therefore, seem reasonable to conclude that all but a few institutions which grant credit under the described conditions believe that it is proper to grant it.

Of the 36 institutions which never give credit under the described conditions (*see* second column of numbers in the table just given), 3 are convinced it should be given; 17 think that it is worth considering; and 16 of them either do not favor it or clearly state that it should not be given.[3] Therefore, more than half of the colleges not granting modern-language credit for the elementary course to the student who has had two years of it in high school are of the opinion that such credit should be given if the student demonstrates his competence.

Again, there is no common denominator marking the 16 institutions which definitely do not favor granting such credit. They are of all types and are widely scattered geographically. One states that the practice of granting credit for the elementary course would encourage students to use a means of getting easy credit. Three object that the comparison with the repetition of high-school subject-matter in college English, mathematics, history, and chemistry is not valid.

Including the 36 institutions which do give credit under the conditions described, 77 institutions approve of giving credit or at least believe the practice worth considering. On the other hand, 21 colleges either do not favor such credit or clearly think it should not be given.

On the basis of the replies, the conclusion is that a strong majority of the institutions co-operating in this study approve of granting modern-language credit for a course which duplicates high-school work. It is clear from the responses, of course, that placement in either elementary or intermediate courses should be made on the basis of qualifying examinations which measure competence. It also appears that a fair proportion of the institutions sometimes giving such credit believe that certain conditions should be attached to it, the most acceptable of which seems to be limitation of credit to half the normal except for achievement at a high level.

Four or five contact hours per week are required by 69 colleges and only 28 consider the three-hour course adequate at the elementary level. Common practice is to have three "lecture" and two "laboratory" periods a week, and give four semester-hours of credit for the five contact hours. Fifty-three colleges require the same number of hours in the elementary and intermediate course. Forty-seven institutions, almost half of the total group reporting, require fewer hours a week in the intermediate

[3] Two colleges did not reply to this question.

course than they do in the elementary.

Almost all of the colleges reported their modern-language requirement for graduation in terms of number of semester courses "or their equivalent." Several stipulate that if the years of high-school language should be sufficient to cover the entire number of semester courses, the student is, nevertheless, required to take one additional year of language in college.

It is clear from the returns that the requirement of six semester courses, or their equivalent, for graduation is far more common in the East and South than it is in the Middle West. Only 20 colleges in this study are situated in states that might be classified as eastern or southern, and seven of them require six semester courses. On the other hand, only four of the remaining 80 colleges have a six semester–course requirement.

Four semester courses, or their equivalent, are required by 65 institutions, and another nine specify "proficiency" only. This qualification is described in a sufficient number of cases to warrant the assumption that it means mastery equivalent to that expected at the end of four semesters. More than a third of the colleges requiring "four semester courses or the equivalent" also state that the student may discontinue courses at any time that he proves by examinations proficiency equivalent to that demanded by the stated course requirement.

Only 3 institutions require three semester courses or their equivalent, and two of these are institutions on the quarter system. The requirement of only two semester courses or their equivalent is reported by 6 institutions and four of these six specifically state that there is no requirement of college courses if the student presents high-school credit for two years of one foreign language.

Only 6 institutions require no modern language for the liberal-arts degree: one requires modern language of English majors only; one requires either modern language or mathematics; one administers its curriculum by the group system and the student is not required to take a modern language unless he chooses this group; one states that recent faculty action makes it possible to earn a B.A. without any foreign language; another, that it is thinking of re-introducing a modern-language requirement; and one simply says that it has no such requirement.

That the colleges in Kansas place less emphasis on the modern-language requirement than those of any of the other states included in the study seems apparent from the returns. Of the six Kansas colleges included, one requires three semesters, four require two semesters, and one does not require any.

Therefore, of the 100 colleges included in this study, 85 require four or six semester courses of modern language or their equivalent in proficiency; 9 require two or three semester courses or their equivalent; and 6 require none.

The colleges were asked what arrangements they made for waiving course requirements by reason of mastery as proved by proficiency examinations. The figures here given have no reference to waiving course requirements by reason of high-school units in the language. Excluded from the figures which follow are the 6 colleges which have no modern-language requirement and the 21 which

either gave no answer to the question or answered it too vaguely for safe interpretation.

Nine of the 73 colleges answering this question state their requirement exclusively in terms of mastery as proved by a proficiency examination, and twenty waive further courses in modern language at any time that the student proves mastery by a proficiency examination. Fifteen waive courses in modern language rarely and for exceptional reasons such as accidents in planning programs, blindness of students, and so on. Twenty-nine do not waive courses by examination. It is very probable that the colleges not responding to this question, or responding vaguely, do not waive their course requirements by reason of proficiency examination. Several institutions, however, do state that a student must continue his foreign language until he has passed a proficiency examination, even though he takes courses beyond the minimum required number.

The Writing Laboratory[1]

What can the English teacher say to his colleagues, members of the faculties outside the English department, when they complain of the deplorable quality of English which students in their classes are using? In a number of instances, the English teacher could say that his classes are too large for him to give the kind of individual attention that is usually essential for the best results in teaching English. Or sometimes one hears that the high school (or even the elementary school) does not do its duty in developing mastery of the language in preparing its pupils for college.

Regardless of the justice of these comments, the college finds that the problem is theirs. Is it a matter of "too little" or "too late"—that is to say, have students had too little preparation in English, and is it too late to do anything about it, especially when they are Juniors or Seniors in college?

A large southern university faced this problem. Seventeen professors, representing almost every department, met as a committee to study effective means to improve their students' English. The chairman of the group was a professor of geology. Ultimately, this committee decided to have a writing laboratory as the core of their recommendations.

What is the writing laboratory? It may be described, in general terms, as a special room where, under the supervision of at least one trained faculty member, a student, or a small group of students, may receive individual methodical instruction in English writing problems according to his needs, be it in correct usuage, punctuation, coherence and unity, or in any other branch of English. The atmosphere is made more congenial for such an activity with necessary writing tables, reference books, and dictionaries.

The Chicago Conference on Composition and Communication sponsored by the National Council of Teachers of English named at least five types of writing laboratories (some places call them writing "workshops"; others use the term "clinic"):

1. A writing laboratory which is available to students who are taking a regular course in freshman composition or in

[1]Reported by Andrew K. Kafka, Department of English, Wisconsin State Teachers College, Eau Claire.

communication. Here attendance is optional.

2. A writing laboratory which is at the disposal of all students from any level, freshman through senior. Here, attendance may be optional or required, depending on the college.
3. A "remedial laboratory" for students who have been unusually neglected in their basic writing skills. Occasionally, this is used as a "sub-freshman" English course for entering Freshmen who make a very poor showing on the English placement tests.
4. A writing laboratory as part of a regular freshman English course, where designated hours of attendance are required to supplement the regular class meetings. This can be compared to the science "lab" requirement.
5. A writing laboratory maintained without any regular freshman composition course, where one may obtain help in order to pass a standardized English test required by the college in lieu of a formal course in composition.

There are a number of benefits to be derived from a writing laboratory. To begin with, it offers a means whereby the slogan "Every class, an English class" can be effectively encouraged even on a university-wide basis. Thus, whereas formerly the teacher outside the English department could only complain that it was "too little" or "too late," when there is a laboratory available to any student, teachers of all subjects can hold their students responsible for maintaining writing proficiency throughout all of the four years, even after they have "passed" the freshman English course. In this connection, a number of colleges insist on giving a junior-year proficiency test; others ask all teachers to watch for the student who has reverted to careless writing habits, give him a temporary "composition condition" with his mark, and report him to a central English committee. The laboratory is then used to help this student improve. Hence, its existence can have a "bracing effect" throughout an entire university, as a commentator from one prominent university put it. In addition to this, there are other advantages:

1. Attention is provided for the individual needs of a student; needs due to variations in background, where evidence of earlier neglected development of one basic skill or another is apparent; needs due to different geographic origin (foreign or regional); needs of the returning veteran (and he is still with us) who is seeking some "refresher" assistance, possibly after a long lapse of time since he first "took" English composition.
2. Students with persistent and stubborn isolated problems, such as spelling, punctuation, sentence-sense, and so on, can seek individualized aid. Often, this eases out of existence certain language "blocks" which are occasionally indicated by such remarks as "I never could spell" or "I can't write."
3. The benefit of obtaining immediate attention, when some difficulty arises in writing or in grammar, is significant. In such activities as abstracting, paraphrasing, proofreading, and in developing a readable and interesting style, the English laboratory can offer a most rewarding service.
4. The task of selecting and organizing writing material, or even arranging a scratch outline, often looms like a formidable hurdle in the mind of a student. Helping him think it through, at the very beginning, invariably produces a better piece of writing.
5. The nature of writing frequently involves principles of educational guidance. The laboratory teacher may help ease the task of the "conference" or guidance adviser. This "confer-

ence" procedure, whereby every student is assigned to a faculty member who helps guide him through his four years, is followed in a number of colleges and universities.

6. The availability of help may encourage a student to do his own work, rather than have someone else on the outside, under the guise of merely assisting him, do it for him almost entirely. It may stimulate initiative and encourage various disciplining processes in writing.
7. As long as sports are important, there will always be the need for special assistance for those students who leave the campus for a day or more to play other colleges, or who need additional time for practice; such absences can be made up better in English, when there is a lab. Some colleges find that their athletic "stars" frequently need individual help in English anyway.
8. Because of economy, or other circumstances, the condition where "about forty" (or more) students are herded together in a freshman composition class still exists in a number of places. The writing laboratory could offer a welcome service to those students who are taking their regular freshman course in such a crowded classroom.
9. Not only does the laboratory offer a direct method for following up the findings of the diagnostic placement tests with immediate assistance, but it can help integrate writing with other areas in the over-all communication program, including speaking, listening, and even reading. In other words, weaknesses in English of the first-year students may be corrected early, and timely recommendations made to other units of the communication division.

In general, the availability of a laboratory helps to generate confidence and lifts morale in a real way. It has been proved that a student invariably receives better marks when he has the opportunity to attend a writing lab. Often there is noticeable improvement even in non-English subjects as well.

Any college that plans to begin a writing laboratory needs to consider some of these aspects:

What shall be included in the physical set-up of a lab?

Who shall be allowed to use it? Freshmen? All students? The community at large?

Who shall recommend students? English Department? All departments?

What techniques are most valuable?

How shall it be staffed? How many students per teacher? What training and experience shall a laboratory teacher have?

Shall credit be given for attendance if the lab is a definite part of the writing course?

How shall students be encouraged to use the lab when attendance is optional?

How can the progress of students be measured? If standardized tests are used, which ones are most reliable and suitable for a particular type of college?

In many cases, those colleges which have been experimenting with the writing laboratory find that it can be a direct, timely, and functional medium for aiding their students in their individual needs in writing, and in so doing they are helping to raise the general quality of the English being used on the campus.

·The·Reporter·

A WORKSHOP designed to help teachers, educational administrators, social workers, and lay readers to develop more effective techniques and to utilize materials in intercultural education will be conducted at the University of Bridgeport from July 30 to August 15. The Bridgeport public schools and the Bureau of Youth services of the Connecticut Department of Education are co-operating.

A PROGRAM of summer instruction designed to accelerate the work of beginning college students who may be called into military service has been announced by Northwestern University's School of Law. Classes will begin June 14 and end August 18, and will include basic courses in contracts, torts, and criminal law. This program augments the regular summer session of the School of Law. Beginning law students who are able to continue studies without interruption should be able to complete their work by August, 1953.

TO MEET the speed-up in industry and the consequent necessity for overtime work, Cooper Union School of Engineering will reduce its schedule from four nights a week to three (nine hours). Under the new arrangement it will take eight years to complete the evening-school program leading to a degree in chemical, civil, electrical, or mechanical engineering. All courses are free. Admission to freshman classes is by competitive entrance examinations. For the first time in the history of Cooper Union, transfer of credits may be made. Entrance examinations for the evening engineering courses beginning September, 1951, will be held June 12–15 inclusive. Applications by mail should be received by June 8. Additional examinations will be held August 21–24 for a few remaining first-year places.

THE American University will make $10,000 available in fellowships and scholarships to students preparing for missionary and religious work. In addition to eleven awards, the fund will provide a two-weeks summer-residence orientation program in Washington for missionaries.

THE sixth annual Foreign Service Review Course, designed to prepare candidates for the annual examinations of the United States Foreign Service, will be offered by George Washington University, June 25–August 31. Classroom review will be conducted in American history, principles of economics, English, general statistics, geography, international affairs, American government, and contemporary affairs. In addition, special reading assignments and conferences will be held on subjects that cannot be adequately reviewed in class. Tuition for the course is $180, and this fee may be covered by the educational benefits of the G.I. Bill. Only those who have been designated

by the Department of State to take the written Foreign Service Examination may enroll in the course.

THIS year's summer session of Alcohol Studies at the University of Wisconsin, to be held June 25–29, will emphasize the social factors involved in alcoholism, such as habits and customs of drinking, the place of the tavern in the community, and the psychological processes of the alcoholic and his relationship to society. The Wisconsin State Bureau of Alcohol Studies is co-operating. Among those expected to attend are physicians, social workers, clergymen, police and probation officers, industrial and hospital personnel, educators, and others whose professional duties bring them in contact with alcoholics. The staff for the session will be drawn from the United States Public Health Service, the Institute of Mental Health, the World Health organization, state agencies, and the University of Wisconsin.

TO GIVE the members of the business and economics faculty of Evansville College up-to-date information regarding business practice in local establishments, a series of conferences between faculty members and local business executives has been arranged. The first conference was held with officials of the Hoosier Cardinal Corporation, and the second with the National Furniture Manufacturing Company; other conferences in the series are planned.

THE United States Air Force has selected Northwestern University as one of the 62 American colleges and universities chosen for its new R. O. T. C. training programs. Although most of the men selected will be Freshmen, some students with advanced standing will be eligible for appointment, especially those with at least one year of military service. The four-year course will be divided into two categories, basic and advanced, with two years of instruction in each. Advanced students will be deferred from the military draft, and it is probable that some students in the basic course will also be deferred. Upon completion of the course students will receive commissions as second lieutenants in the United States Air Force Reserve. If students meet certain military and scholastic requirements, they may apply for commissions in the regular Air Force. After graduation they may apply for active duty.

IN A report for the academic years 1948–49 and 1949–50, entitled *Aims and Methods in Urban Colleges*, Ordway Tead, chairman of the Board of Higher Education of New York City, discusses the country-wide interest in the modification of college curriculums to make them serve the needs of students more effectively, and, in particular, the developments in curriculum which have taken place in the four colleges under the jurisdiction of the Board.

At Brooklyn College, for example, a faculty committee has for two years been carrying on an experimental program in which three hundred Freshmen were enrolled in the fall of 1949 and six hundred in the fall of 1950. "It is anticipated that as the program works out satisfactorily, it will be extended to the entire entering class." It includes a general course in English, one interdepartmental course in science, one course in social science,

and, in the junior year, a general philosophy course to be known as "Knowledge and Society." The program provides for strengthening the "functional major" in the upper years.

SPECIAL courses for high-school and college music instructors will be given at the University of New Hampshire this year by three well-known guest conductors, in connection with the annual summer youth music school. The summer session will be held August 12–26.

A FELLOWSHIP program amounting to $2,280,000 which is designed to increase the teaching skill of young college instructors has been announced by the Fund for the Advancement of Education. It is estimated that up to 500 fellowships may be awarded for the academic year 1951–52, depending on the quality of the applications and the extent of the national need. The program will be nation-wide and will be directed by an administrative committee of 16 college and university presidents and deans. Of the total grant, $90,000 will go to the American Council of Learned Societies to expand that organization's already established program of faculty study fellowships. The remaining $2,190,000 will be used to provide fellowships for college teachers who reach agreement with the institutions employing them on plans for increasing their effectiveness in undergraduate instruction.

IN AN effort to increase mutual understanding between the United States and Denmark, the government of Denmark has offered to finance a year's study in a Danish university for three Americans. The Institute of International Education will select the American students for the Danish Ministry of Education. Each of the three fellowships carries a stipend of 3,255 Danish kroner, which is sufficient to cover room and board; tuition will be waived by the universities. If the students selected do not know Danish, Norwegian, or Swedish, they will be required to take orientation courses in August, before the beginning of the academic year. Part of the stipend will be given the student in March, 1952, for travel in Denmark. Any American student with a Bachelor's degree—preferably under thirty-five years of age—is eligible for the fellowships.

A COURSE in psychological warfare and propaganda will be introduced in the fall at Washington and Lee University. The course is a revision of work now offered journalism students in public opinion and propaganda. It will emphasize the functions, tactics, and media of psychological and political warfare, with special reference to the Second World War and the contemporary world conflict.

NEARLY four thousand men and women in uniform, at bases from Lancashire to Vienna, are taking one or more courses provided by the University of Maryland in collaboration with the Pentagon. This amounts to nearly 4 per cent of the United States forces in Europe. Normally, a high-school education is required for admission. The Army expects every officer to have the equivalent of two years of college education. Officers who have been too busy fighting a war are now completing this requirement, as are enlisted men hoping to qualify for officer training.

·Editorial·Comments·

The Study of International Relations at Princeton

WITH the establishment of the new Center of International Studies, Princeton University has taken another important step in the development of its program of teaching and research in the field of international relations. The new Center has been established in the Woodrow Wilson School of Public and International Affairs, which brings the different social sciences together in attacking problems in the broad field of public affairs. A year ago, the Center for Research on World Political Institutions was established in the Woodrow Wilson School; it is pursuing studies designed to throw light on the conditions essential to the development of workable international institutions. The new Center will give attention chiefly to foreign policies and the problems arising from the conflict of national policies. It will make a special effort to improve the tools and methods used in the analysis of foreign policy.

The establishment of the Center was made possible by special gifts, including a grant of $200,000 from the Rockefeller Foundation, to be distributed over a period of five years. Frederick S. Dunn, formerly professor of International Relations and director of the Institute of International Studies at Yale, is the director.

The broad interdepartmental character of the new Center is indicated by the composition of the faculty committee which will aid the director in working out the organization and program. The committee includes representatives of the departments of history, demography and sociology, politics, and economics, together with the director of the Woodrow Wilson School. The research staff will include a permanent nucelus of from five to ten established scholars in various specialties. A research seminar at the postdoctorate level for the advanced training of policy analysts will be developed. It will be supported by fellowships and is expected to attract some of the ablest young scholars in political science, economics, sociology, and history.

The establishment of such a Center at any university would be important news; its establishment at Princeton is particularly significant because of this institution's record of service in the field of public affairs. Princeton not only has very strong instructional staff in many of the relevant fields, but a whole constellation of specialized research agencies—the Office of Population Research, the Center for Research on World Political Institutions, the Office of Public Opinion Research, the Organizational Behavior Project, and others. The Institute for Advanced Study, while not a part of Princeton University, is very close to it both geographically and intellectually; hence it too constitutes a major resource for study in this field.

The people of the world today face many difficult problems, but only a few of them may said to be of first-rate importance. One of these,

and the most urgent of all, is that of working out just and peaceful relations among nations. If we do not solve this problem it will make but little difference what we do about many of the others that beset us. This problem, like all other major problems, is basically an educational one. If Princeton had no other claim to distinction except leadership in the study of international relations, it would still be one of the world's most important educational institutions.

R. H. E.

Letters to the Editor

You may or may not have heard that a second edition of *Mapping Your Education* has seen the light of day. I have asked the publishers, Abbott, Kerns and Bell Company, to send a complimentary copy to the JOURNAL OF HIGHER EDUCATION. I hope that you will discover that we have made good on some of the sins you noted in your review which was published in March, 1949.

DOUGLAS V. MCCLANE
Whitman College

Upon the invitation of the editors of a half-dozen educational periodicals, I have, through the years, prepared dozens of book reviews. In all cases, I have read the books with painstaking care and have undertaken in my reviews to indicate the most outstanding virtues and the most serious faults. I have written my reviews in an effort to be of service to readers, not in an effort to please or displease authors and publishers.

I know of no satisfactory way to measure the impact of my reviews—and other reviews—on readers. Nor do I have a satisfactory measure of the effect on authors and publishers. The occasional letter which has come as a result of these reviews has usually carried an expression of resentment over the critical aspects of the review. One author went so far as to say that I had been unethical and unprofessional in pointing out the faults in his book. (He did not deny the faults.) However, because I saw little evidence that my reviews were effective, I have sometimes wondered whether it was worth while to spend the time and energy which the preparation of a review requires.

In view of all this, I was much pleased to see the letter which came from one of the authors of *Mapping Your Education*, my review of which appeared in the March, 1949, issue of the JOURNAL OF HIGHER EDUCATION. It is obvious that the authors of this publication have given thoughtful attention to the few criticisms which appeared in the review and have attempted, in their revision, to improve the book in the respects indicated. An examination of the revision of *Mapping Your Education* soon convinced me that they have been successful in their attempts at improvement.

McClane and Kuder already had a good book, but now they have a better book. In addition to the improvement suggested by this reviewer, other improvements have been made. One of the best of these is a very fine "Glossary of Some Collegiate Terms" which has been added.

McClane and Kuder took my few adverse comments in such fine spirit that I am now tempted to adopt the slogan, "It pays to criticize."

R. L. MORTON
Ohio University

Thank you for sending me the interesting and fair summary of the Great Books "debate." Fair, that is, but for one point—I did not argue that "a study of modern literature would be more rewarding than one devoted to the classics selected," but that such study, for the average person, would be more rewarding than study devoted to *some* of the classics selected; and I named some titles.

BEN RAY REDMAN
Los Angeles 64, California

··Reviews··

One View of the American Scene

THE MIND'S ADVENTURE, *by Howard Lowry*. Philadelphia: Westminster Press, 1950. xii+154 pp. $2.50.

There is a striking similarity of thesis and treatment between Sir Walter Moberly's *The Crisis in the University* as reflecting the English situation and President Lowry's current volume on the American scene. Both books are essentially at one in saying that Christianity should be integral in the studies of higher education and that the omission of virtually all reference to organized religion in the curriculum represents an indefensible ignoring of vital phases of human experience, historic and contemporary. Liberal education, says our author

> . . . creates the need for the examination of religion and religious values . . . in addition it creates in thinking people a desire to weigh religious knowledge and gives them a kind of capability for doing so . . . a liberal education that omits religion is not, in the nature of things, liberal education at all (page 64).

The possible programing of this conviction in the church-related college is well set forth in one entire chapter. But with the utmost possible sympathy for the goals and values the author wishes to serve, one cannot but realize that in other colleges it is not so easy to equate religion with Christianity, or to treat Christianity in quite the same absolute and final way. No one will want to question the nobility and deep sincerity of this entire profession of faith and hope for a change of emphasis in curricular practice on the campus. But, on the other hand, it must be acknowledged that there are equally sincere proponents of religions other than Christianity who also are sensitized to ultimate values in the good life. Moreover, there are those with equal moral sensitivity who reserve the right to have no theistic belief at all. There may be increasing agreement among those who hold such divergent beliefs that religion as a multiform and institutionalized social phenomenon should be studied by every literate person. But that is hardly the same thing as making Christianity, as such, the central organizing principle around which the curriculum is to be built.

I venture the assertion that President Lowry's thesis, acceptable and desirable as it may seem to all professing Christians, is one too simple to fit all the facts, especially those confronted in the conduct of cosmopolitan urban universities. I believe there is genuine profit in a sympathetic reading of this book, not only by Christians who should take their religion more seriously into their education, but by non-Christians as well. But its high moral intent is one thing and its theology is another.

I am of those who are convinced that American higher education has been long on the impartation of facts and short on the development of a sense of the highest values and an ardent commitment to them. Books like this one can help to underscore shortcomings in this direction. Yet it seems to me necessary to realize that the cause of high religion and moral passion are at this stage also to be served by a clear grasp of the truth that "one man's metaphysics is another man's verbiage." And this is not the case because anybody necessarily wants it to be so, but because the avenues to truth and the ways of expressing it are many and not one, as the educated person should be the first to understand.

This book, in short, performs a valuable service in stimulating thought and vision on a higher level of discourse than is typical in educational treatises. But its very resoluteness of conviction will not help it to give equal conviction

to the unpersuaded reader who labors outside the fold.

ORDWAY TEAD
Chairman, Board of Higher Education, New York City

A Workmanlike Job

THE PRINCIPLES OF ENTRANCE REQUIREMENTS OF CATHOLIC COLLEGES IN THE UNITED STATES, *by Brother Cassian Edmund Papillon.* Washington, D. C.: Catholic University of America Press, 1949. xv+246 pp. No price.

This doctoral dissertation presents the findings of an investigation "to determine the fundamental principles by which Catholic colleges in the United States decide to accept or to reject a candidate who applies for the privilege of following their educational program" (page 27). The study "includes only Catholic colleges, and of these only four-year liberal arts colleges that have been in operation long enough to have formulated principles for entrance requirements are included" (page 38). An Inquiry on Philosophy of College Entrance was sent to the deans of 163 colleges which met these criteria and a Form on College Entrance Requirements was sent to the registrars and admissions officers of these institutions. In the former, the opinion part of the investigation, 109 colleges (61 per cent of the group) participated; and in the latter, the factual part with regard to prevailing practices, 123 (75 per cent) of the colleges participated.

The eighteen conclusions summarized in the final chapter are, in most cases, the accepted axioms of the trade, and generally go without saying, as for example:

Entrance requirements should be democratic

. . . are properly under the jurisdiction of the college

. . . cannot have absolute validity and should not remain static but evolve with the educational scene

. . . should articulate the curriculum of the high school with that of the college

. . . should be formulated with a view to the objectives of general education

. . . should measure the candidate's native intelligence.

Those three or four of the eighteen conclusions which sound more interesting, because they are more debatable and debated, are, unfortunately, those which are the more ambiguous in presentation and documentation, and the fuzzier in focus. Probably this is natural and inevitable in a fact-and-opinion study of this sort. In this category are such conclusions as

Entrance requirements should not be based exclusively on intellectual standards but should give equal recognition to social and personality objectives

. . . should measure the candidate's power for purposeful living

. . . should properly subordinate physical characteristics to mental and personal qualifications and to the philosophy of higher education

Colleges should accept equivalent experience and skills for conventional entrance requirements.

The competitive aspect of admission to college is almost completely ignored. Parts of a half-dozen paragraphs refer, in passing, to the "selective principle," and the right of private colleges to select is asserted; but the whole enormous question of what criteria are to be used and what weight is to be given to each, in making these selections from those who meet the minimum requirements for admission when they outnumber the places available is overlooked. The attention given to the very interesting and difficult question of the nonintellectual factors to be considered for entrance to college is inadequate and in poor focus. No reference is made to the principle of diversification in student bodies, which is believed by many to have educational importance.

This study is almost entirely nonsectarian in approach and content. Few of the Catholic colleges appear to have religious requirements for admission; and few, indeed, even give credit for secondary-school courses in religion.

This work is more interesting than its conclusions. Much of its interest derives from the writer's use of quotations from the literature of the field in the critical syntheses at the ends of his chapters, in

which he relates the findings of this study to the previous literature through the lively and relevant use of a substantial and diversified bibliography. His book is excellently organized and clearly patterned. Every chapter's introduction clearly states where that chapter is going, and it gets there. Within the limits which Brother Cassian has prescribed for himself with great precision and care, he does a thoroughly workmanlike job.

ALBERT I. DICKERSON
Dartmouth College

Well Worth Reading

THE AUTOBIOGRAPHY OF DAVID KINLEY. Urbana, Illinois: University of Illinois Press, 1949. 167 pp. $3.00.

The autobiography of a man who began life in Scotland in 1861; was educated at Andover, Yale, Johns Hopkins, and Wisconsin; who taught at Wisconsin and Illinois and at the latter institution was appointed dean of the College of Literature and Arts within a year of his first appointment as an assistant professor; who thereafter was successively secretary of the Council of Administration, assistant director of the Summer Session, director of the courses in commerce, editor of the "University Studies," dean of the Graduate School, vice-president, acting president, and, finally, president for a decade, from the year 1920 to the year 1930: and who served both within and without the University on committees, boards, and agencies dealing with questions of great importance, is almost certain to contain much of wisdom pertaining to the expanding rôle of higher education in America, to the social history of his times, and to fundamental issues still awaiting solution. Particularly is this true when he can define fundamental issues with brevity and clarity. Consider, for example, his remarks with respect to a proposed reorganization of the state government by Governor Lowden: "What the people of the great commonwealth remember is the positive contribution of its great administrators to its welfare; what they have done, not what they have refrained from doing" (page 82); notice, too, his refutation of the charge that officers of state universities must play politics in order to get the money that they need. His remarks with respect to the duties of the trustees on the one hand and the legislature and governors on the other toward institutional needs bear repeating:

> Our position has been that it is the duty of the University trustees to ask for what the institution needs, the duty of the legislature to determine whether the state can afford the amount asked for, and the duty of the governor to decide by his veto what he in turn believes can properly be appropriated, in view of other needs. For a governor to ask the trustees to prepare a budget to which he would agree in advance is merely asking them to help him to avoid his responsibility (page 53).

His remarks with respect to the legislative requests in 1921 are significant:

> As illustrating the indefinite knowledge of the needs of the University, one friendly senator asked what was the least the University could get on with. I replied that that depended on what kind of a University the people want. If you want a new overcoat, I said, you can get one for ten or twelve dollars, but if you want one of a grade marked fifty dollars, you must pay that to get it. The least amount which, in my judgment, will support the University as a first-class institution is the amount we are asking for (pages 114–15).

Ultimately every university president's attention seems to become focused on men and money. There is no substitute for good men. There is no substitute for an environment in which they can work effectively. Ultimately there is no substitute for money. Any president reading this autobiography, compressed as it is into 152 pages, will infer a story from every page, sometimes a chapter from every paragraph. Much of David Kinley's story must have been omitted. One wonders what and how much was omitted and, therefore, how accurately and completely the story of his administration can be told. To be sure, the documents and addresses, the newspapers and magazines, can be read; but how can the historian

enter the mind of a president and re-create the complex of evidence, argument, and personalities from which one major decision must proceed?

Much is told in few words about the Ten-Year Plan for money and buildings, and about curricular research and growth. The story is less clear with respect to men. One wonders if they counted as heavily as money and buildings. Nevertheless, the autobiography is well worth reading: it is to be recommended especially to university presidents and to all students of the growth, development, and administration of universities in the first half of the twentieth century.

VIRGIL M. HANCHER
State University of Iowa

Will Stimulate Thought

COUNSELING AND DISCIPLINE, *by E. G. Williamson and J. D. Foley*. New York: McGraw-Hill Book Company, Inc., 1949. xi+387 pp. $3.75.

With characteristic fervor and missionary zeal, Dean Williamson, in collaboration with Mr. Foley, has explored still another dark continent of student personnel work. In espousing an educational or rehabilitative as opposed to a purely punitive and restrictive concept of discipline, the authors have presented a highly informative exposition of the philosophical foundations, the range and frequency of situations, and the administrative procedures utilized in the treatment of student misbehavior at the University of Minnesota.

With perhaps a little more unction and challenge than is warranted, considering the strong trend in general social thought toward viewing crime and delinquency as a rehabilitation problem, the authors state their assumptions in such passages as the following:

> For instance, we believe that misbehavior, like all forms of behavior, originates in the individual's social learning, in social institutions and mores, or sometimes in pathology. In some cases misbehavior takes the form of unaccepted *normal* deviations in the individual's social development. In other cases personal conflict over the individual's differences from other members of his group is involved causally in misbehavior (page v).
>
> . . . . . .
>
> In our judgment, all behavior, good *and* bad, is thus to be transferred from the realm of blame and censure and placed in the center of socialized learning situations.
>
> Based upon this concept of education, *discipline*, the result of "bad" behavior, is conceived as inherent in the educational process itself, and thus is not imposed directly and arbitrarily from external authorities (page 2).

There are eight chapters and an appendix of 152 pages, the latter consisting largely of case histories. The first two chapters deal with the historical, philosophical, and psychological views of student misbehavior. The third chapter provides a logical analysis and evaluation of possible administrative organizations of disciplinary activities. The next two chapters define disciplinary problems and present general statistics on incidences at Minnesota from 1941 to 1947 and, for 1946 to 1947, more detailed analyses of factors correlated with incidence. The statistics should prove highly informative to personnel workers, psychologists, psychiatrists, and sociologists. The sixth chapter treats methods of investigation, with emphasis upon the validation of the complaint and the gathering of data about the individual available in the institution. Here the reader may be disappointed by the failure to touch on the gathering of data directly from the individual. The statistics on disciplinary actions presented in the next chapter will be of interest to educational administrators and personnel workers. It is difficult to judge the exact purpose of the last chapter, entitled "Counseling as Rehabilitation." It seems to be attempting to establish through citation of the fragmentary data available and through review of pertinent theoretical formulations the thesis that counseling can be rehabilitative.

As a historical survey of philosophy and practice, this book will help to stimulate the thinking of educational and personnel administrators. Similarly, as a description of organization and administrative practices, it may stimulate other administrators to be more explicit about

their practices and, perhaps, to evaluate them more critically. To counselors or clinicians who are looking for insight into the clinical or counseling process, as distinguished from administrative procedures, through which student misbehavior is treated, this volume will prove a disappointment.

EDWARD S. BORDIN
University of Michigan

Limited in Application

GUIDANCE IN CATHOLIC COLLEGES AND UNIVERSITIES, *edited by Roy J. Deferrari.* Washington, D. C.: Catholic University of America Press, 1949. 303 pp. $4.00.

The Third Annual Workshop on Catholic Higher Education, which took place in June, 1948, is reported in this volume. The Workshop was attended by 58 women and 7 men, all staff members in Catholic universities and colleges throughout the country.

More than half of this book is given over to a discussion from theological and philosophical points of view of how a Catholic must select and practice his vocational activity. Eleven papers in Part I by 8 different priests and one sister present the Catholic philosophy of guidance in an inspirational and dogmatic style.

Part II, consisting of three papers by Charles Odell of the United States Employment Service, describes the services of that important agency. Part III consists of four papers, two of which are interesting descriptions of vocational-guidance programs in Catholic colleges for women; a third, a discussion of vocational guidance in relation to diocesan charities; and the fourth, a very interesting paper by the Reverend Charles A. Curran, on family and marriage counseling and the college counseling program. The Reverend Curran's paper is inductive (although it starts with a presupposition of nondirective counseling), and presents illustrative material demonstrating his point of view persuasively rather than didactically.

A fourth section of the book presents brief summaries of five seminars which were carried on throughout the workshop on actual fields of work for college students.

The concern of this book is with vocational guidance rather than with guidance and development of young people in a broad sense. Furthermore, with so much of the book focused on Catholic doctrine in its relation to the choice and practice of vocational activities, there is only incidental help given to those who wish to develop a broad program of personnel work in a college or university, whether avowedly religious or not.

ESTHER LLOYD JONES
Teachers College, Columbia University

A Worth-while Report

RURAL AMERICA AND THE EXTENSION SERVICE, *by Edmund deS. Brunner and E. Hsin Pao Yang.* New York: Teachers College, Columbia University, 1949. xii+210 pp. Paper, $2.80; cloth, $3.00.

The conviction of the authors of this volume, expressed in the preface, that "adult education as a whole has much to learn from agricultural and home economics extension" (page vii) is amply justified by a reading of the 183 pages of text which follow. The first half of the book (Chaps. I through VI) deals primarily with the history and organization of the extension service and will be of special value for pre- and in-service education of extension staff members. The second half of the book and particularly the ninth chapter, on programs and program planning, and the eighth chapter, on methods of extension teaching, will be of interest and value to all educators concerned with community action and improvement programs.

The statement of eight principles to guide practice in program planning as suggested by thirty-five years of extension experience is especially good (pages 106–10). The chapter on methods is somewhat inadequate in its treatment of small and large group meetings. This is particularly unfortunate because of the increasing importance of meetings in the communication system which the exten-

sion service has developed (*see* page 121 and the table on page 128). Moreover, there has been considerable experimentation with techniques of improving communication in both large and small groups, some of it under extension auspices, notably in Ohio and Michigan.

Readers of the JOURNAL will be especially interested in the problem of professional preparation and in-service education of extension workers (especially pages 134–35). Extension service scores high on both philosophical and statistical grounds, as the authors conclude their major assignment with an evaluative chapter and a brief look at some problems of the future (Chap. x). Throughout, there is stressed the need for continuing fundamental research as an essential condition of maintaining the health and vitality of this great educational institution (pages 131 and 168).

The final chapter, on principles of extension work, is addressed primarily to interested foreign observers and students who may be seeking help in building or improving extension services of their own. Laudably enough, the authors stress the peculiar cultural conditions which nurtured the system in the United States and caution against wholesale adoptions without careful consideration of the cultural setting in which features of the service are to be used.

The numerous photographs, chiefly from the files of the United States Department of Agriculture, present effective visual evidence to supplement the verbal descriptions of extension activities.

PAUL H. SHEATS
University of California at Los Angeles

A Useful Book

THEORY AND PRACTICE OF PSYCHOLOGICAL TESTING, *by Frank S. Freeman.* New York: Henry Holt and Company, 1950. xxi+518 pp. $3.50.

Mr. Freeman's book is a thorough and critical treatment of what the title indicates. It deals with basic principles and theory of psychological testing and their practical applications. The treatment at all times is well balanced. Included in the book are excellent discussions of the definitions of intelligence, the Binet scales, individual performance scales, and nonverbal group scales. The fields of mental testing and educational testing are covered very well.

In addition to these aspects of testing, considerable attention is given to the testing and evaluation of personality. Both the projective and nonprojective methods are discussed adequately. There is a satisfactory treatment of the Rorschach Test. The discussion of sociometrics is helpful. At the end of the book there is a chapter which deals with various applications and implications of the results of psychological testing.

The strength of the book lies not only in a thorough and satisfactory treatment of the subject-matter of psychological testing but in the theoretical implications which are set forth and the competent evaluations which Mr. Freeman makes. The book is a good combination of basic subject-matter, thorough principles, and sound evaluations. It is clearly written and avoids "gobbledygook." The closest the author comes to it is the use of the terms "frame of reference" and "rationale," and the use of those terms is not a serious defection.

Even though the publishers manufactured the book so it looks a bit small, the person who gives the volume only a casual inspection should not be misled. The book is in no sense a small book; it is full of content and is sufficient for any course in the theory and practice of psychological testing. It is a first-rate book by a seasoned and established writer.

HERBERT SORENSON
University of Kentucky

More Sympathetic than Impartial

EVOLUTION AND THE FOUNDERS OF PRAGMATISM, *by Philip P. Wiener.* Cambridge, Massachusetts: Harvard University Press, 1949. xiv+288 pp. $5.00.

The American pragmatic movement began at the time when Darwin's views on evolution were just coming before the world. Its representatives took a special interest in evolution, because of their dissatisfaction with the absolute idealism which had dominated the atmosphere of

thought for a good half-century in Germany, had spread to England, and was beginning to influence America. Absolutism seemed to them to tie the universe into too close a unity; and the priority of mind was taken as too anthropomorphic and subjectivistic a view. What the pragmatist group wanted was more disconnected pluralism and more objective naturalism.

The movement began in a circle of brilliant men in Cambridge who had formed themselves into an informal Metaphysical Club, referred to a number of times by Charles S. Pierce. In the group, besides Pierce, were Chauncey Wright, William James, John Fiske, Nicholas St. John Green, O. W. (later Justice) Holmes, Joseph Warner, and Francis E. Abbot. To each of the first six a chapter is devoted. Appendix G is a biographical sketch of Warner. Abbot is mentioned here and there in connection with the others.

Wright, a mathematician and astronomical computer, was a defender of the recently presented evolutionary theory of Darwin, and maintained that science is entirely neutral toward all particular philosophical systems. Yet he did not remain indifferent toward the ethical social issues of the time. Pierce was an applied scientist and a logician, but he was touched with an interest in metaphysics and even theology which some of the other members of the circle lacked. Yet he would answer all questions even here by appeal to experience and the methods of science.

James saw in the doctrine a formulation of the spontaneous individual variation in life, which is not pinned down by any scientific formula, but makes its way by experiment here and there, adopting whatever way of looking at experience works best. Fiske found evolution a basis for an optimistic gospel of universal progress, which led to his cosmic philosophy, and which he turned to the interpretation of human history, including religion and politics.

Green's work was in the teaching and interpretation of the law, where he used the historical approach more than the analytic, which had been prevalent before, as an aid to an inductive interpretation, and as a means of keeping in touch with the social and empirical conditions in which it operates. This was exemplified in his emphasis upon proximate versus remote causes.

Holmes was in close touch, through correspondence, with professional philosophers. He professed himself temperamentally opposed to metaphysical interpretation; yet his outlook upon life was distinctly philosophical, concerned with life's deepest questions and its cosmic background. Law he regarded as rooted in all experience and history, not merely in logic; and he had a faith in cumulative progress as the result of experience, although results at any moment are tentative.

Warner, also a lawyer, reacted against German idealism, and lauded Holmes's utilitarian and evolutionary view of right and wrong. Consequences to society are more basic in legal judgments than intent on the part of the accused.

Abbot was a radical theologian, interested in a positivistic religion of evolution. He left the Unitarian ministry to gain more freedom.

The final legacy of the group was a point of view expressing pluralistic empiricism, temporalism, relativism, probabilism, and fallibilism, with secular democratic individualism. These were expressed in connection with the special interests of each of the several thinkers.

The book is a valuable study in the origins of pragmatism, but it is marked by sympathy more than impartiality in many of its estimates. Numerous attitudes claimed as pragmatic are acknowledged equally by thinkers not using the name.

ALBERT E. AVEY
Ohio State University

The Liberal-Arts College in the Training of Scientists

HARRY F. LEWIS

[*Continued from page 303*]

nationally accredited colleges are in the ranks of the unproductive institutions, in contrast with 72 per cent of the regionally accredited schools and 83 per cent of those accredited by neither agency. Two-thirds of the nationally accredited unproductive schools are women's colleges. In sharp contrast with this is the remarkable interest in scientific research and science training in the women's colleges of the East (Barnard, Bryn Mawr, Goucher, Mt. Holyoke, Smith, Vassar, and Wellesley). It is surprising to find 12 universities in this unproductive list and 12 others which are responsible for the undergraduate training of ten or fewer science doctorates in ten years.

The data developed in this study support in a general way the conclusions of the studies of Blackwood and Bell to which reference has been made, and, with some modifications, the conclusions of the Steelman Report.

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Who Is a Good Professor?

THOMAS C. DONNELLY

[*Continued from page 309*]

of them which are influential if their members conceive their functions imaginatively and carry them out with acute sensibility for the good of the whole institution.

Since every institution, even a monastery, is a part of the community in which it is located, a good professor cannot escape some responsibility for what goes on beyond the limits of his classroom or laboratory. He will want to help give direction and lend a hand occasionally to agencies and movements that seek to achieve worth-while purposes. It is probable that the professor will profit as much from his participation in such organizations as the organizations will profit from his contribution. Of course, participation in community affairs can be carried too far. This point is reached when a faculty member becomes so extensively affiliated that he does not have time to be a good professor, which is his first responsibility.

These, then, are the criteria of a good professor. Admittedly this is a large order for a professor to fill. It might also be observed that the qualities demanded are rare, and again one must admit they are. Excellence in any field is never the common property of many. But in those in whom it exists it shines forth, readily recognizable as worthy and desirable. Any college of real stature and worth gains such a position because its staff is peopled by some at least who are acknowledged by colleagues and students alike as good professors.

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Religion in a State University

HARRY H. KIMBER

[*Continued from page 296*]

is to adopt a form of sectarianism no less objectionable because it is fashionable. The freedom of teaching and learning that is rightly claimed by the professors and students of any subject extends to the field of religion.

It is in this connection that the third principle enunciated at the beginning of this article becomes important. The functions of the counseling services in the field of religion and those of the teaching branch of the institution present fundamental divergences both in purpose and methods. It is essential that the teaching of religion be divorced from religious interest or enthusiasm as a condition of enrollment. While it has been emphasized that courses in religion must be taught from a specific point of view, and by men committed to that point of view, the election of such courses must never be permitted to become a declaration of faith or an evidence of piety. The strict administrative separation of the counseling functions and the teaching functions, which meet only at the level of the chaplain-lecturer, and there with lines of responsibility running in different directions, is an essential characteristic of the Michigan State College program.

The co-operation which exists at Michigan State College between the Dean of Students and the Counseling Service, on the one hand, and campus religious organizations, on the other, indicates that the administrative attitude toward religion in this particular public institution is sympathetic and encouraging. Its inclusion as a subject of teaching and of research in the curriculum of the College confers upon religion a respectability and standing in the academic community that make it impossible for it to be rejected as part of the whole of human life. Much remains to be done. Only the foundations have been laid. In both counseling and curriculum, religion has become, however, an increasingly pervasive and vital force in the entire educational program of Michigan State College.

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Psychocultural Approach to Social Science

C. STODDARD AND C. H. HESSION

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10. OVERSTREET, HARRY. *The Mature Mind.* New York: W. W. Norton and Company, Inc., 1949.
11. SCHAFFNER, BERTRAM. *Fatherland.* New York: Columbia University Press, 1948.

Family, Community, and Social Class Structure—

12. HOLLINGSHEAD, A. B. *Elmtown's Youth.* New York: J. Wiley and Sons, 1949.
13. WARNER, W. LLOYD; MEEKER, M.; AND EELLS, K. *Social Class in America.* (Chaps. I, II, XIV, XV). Chicago: Science Research Associates, 1949.
14. LEVY, JOHN, AND MUNROE, RUTH. *The Happy Family.* New York: Alfred A. Knopf, 1938.

Economic Dynamics—

15. ADAMS, WALTER, AND TRAYWICK, LELAND, editors. *Readings in Economics.* New York: Macmillan Company, 1948.
16. HAYEK, FRIEDRICH A. VON. *Freedom and the Economic System.* Chicago: University of Chicago Press, 1939. (Public Policy Pamphlet No. 29).
17. HESSION, C. H.; STODDART, C.; and MILLER, S. M. *Dynamics of the American Economy.* Brooklyn, New York: Brooklyn College Press, 1951. 2 vols.
18. WOOTTON, BARBARA. *Freedom under Planning.* Chapel Hill, North Carolina: University of North Carolina Press, 1945.

Politics, Belief Systems, and Values—

19. HERRING, EDWARD P. *Presidential Leadership.* New York: Farrar and Rinehart, Inc., 1940.
20. SCHATTSCHNEIDER, ELMER E. *Party Government.* New York: Farrar and Rinehart, Inc., 1942.
21. SNYDER, R. C., AND WILSON, H. H., editors. *Roots of Political Behavior.* New York: American Book Company, 1949.

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